

A FLORISTIC INVENTORY OF VASCULAR PLANTS OF THE
MEDICINE BOW NATIONAL FOREST AND VICINITY,
SOUTHEASTERN WYOMING, U.S.A.

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ABSTRACT

This inventory expands the floristic coverage of the Medicine Bow Mountains (Medicine Bow National Forest proper) located in southeastern Wyoming. The Forest, covering 2,150 sq km (830 sq mi) and ranging in elevation from 2,400–3,650 m (7,900–12,013 ft), was surveyed for all species of vascular plants. Most of the lands inventoried are in the Medicine Bow-Routt National Forest but small parcels are under the jurisdiction of the Bureau of Land Management or the State of Wyoming. These parcels are within three miles of the Forest boundary. Over three summers, 9,837 numbered specimens were collected at 168 sites. Two unnamed putative hybrids were documented. A summary of taxa follows (numbers in parentheses are taxa documented by other workers): 88 families, 376 genera, 835 (201) species, 910 (212) unique taxa for a combined total of 1,122 unique or terminal taxa. *Alchemilla filicaulis* ssp. *filicaulis* and *Carex arcta* are species new to Wyoming. Also documented were 51 (18) exotics as well as seven noxious weeds. Twenty-two species of conservation concern were also found at 51 locations.

RESUMEN

Este inventario expande la cobertura florística de las Medicine Bow Mountains (Medicine Bow National Forest propiamente dicho) localizadas en el sureste de Wyoming. El bosque, que cubre 2,150 km² (830 sq mi) con un rango de elevación de 2,400–3,650 m (7,900–12,013 ft), fue estudiado para coleccionar todas las especies de plantas vasculares. La mayor parte de los terrenos inventariados están en el Medicine Bow-Routt National Forest pero algunas pequeñas parcelas están bajo la jurisdicción del Bureau of Land Management o del estado de Wyoming. Estas parcelas están a menos de tres millas del límite del bosque. Durante tres veranos, se coleccionaron 9,837 especímenes numerados en 168 lugares. Se documentaron dos híbridos putativos sin nombrar. El resumen de taxa es como sigue (los números en paréntesis son taxa documentados por otros autores): 88 familias, 376 géneros, 835 (201) especies, 910 (212) taxa únicos de un total combinado de 1,122 taxa únicos o terminales. *Alchemilla filicaulis* ssp. *filicaulis* y *Carex arcta* son especies nuevas para Wyoming. También se documentaron 51 (18) exóticas así como siete malas hierbas nocivas. También se encontraron 22 especies con necesidad de conservación en 51 localizaciones.

INTRODUCTION

The Medicine Bow Mountains (Medicine Bow National Forest proper, herein referred to as the Medicine Bows) have had a long history of botanical research. Most relevant is the floristic work beginning with Aven Nelson and his students in the 1890s. Likewise there have been a long series of ecological studies by faculty and students of the University of Wyoming (J.F. Reed, W.K. Smith, D.H. Knight), the U.S. Forest Service (R. Musselman), and visiting scientists (W.D. Billings, R.F. Daubenmire, L.C. Bliss, H.A. Mooney). For more than 50 years, the University of Wyoming's S.H. Knight Science Camp hosted hundreds of students enrolled in summer courses in biological and geological sciences. The camp was closed in the early 1980s. Most of the activities mentioned above occurred along the "Wyoming Highway 130 corridor" from near Centennial to the area on Libby Flats and the summit of Medicine Bow Peak (Fig. 1). B.E. Nelson did a Master's degree on the Medicine Bow Mountains and summarized collection data from throughout the range (Nelson 1974), later publishing results in a book (Nelson 1978, 1984). The first book edition had intense use by students at the Science Camp.

This botanical inventory is part of the larger effort by the Rocky Mountain Herbarium (RM) to map in relatively fine detail the geographic distributions of species based on vouchered specimens and to produce a

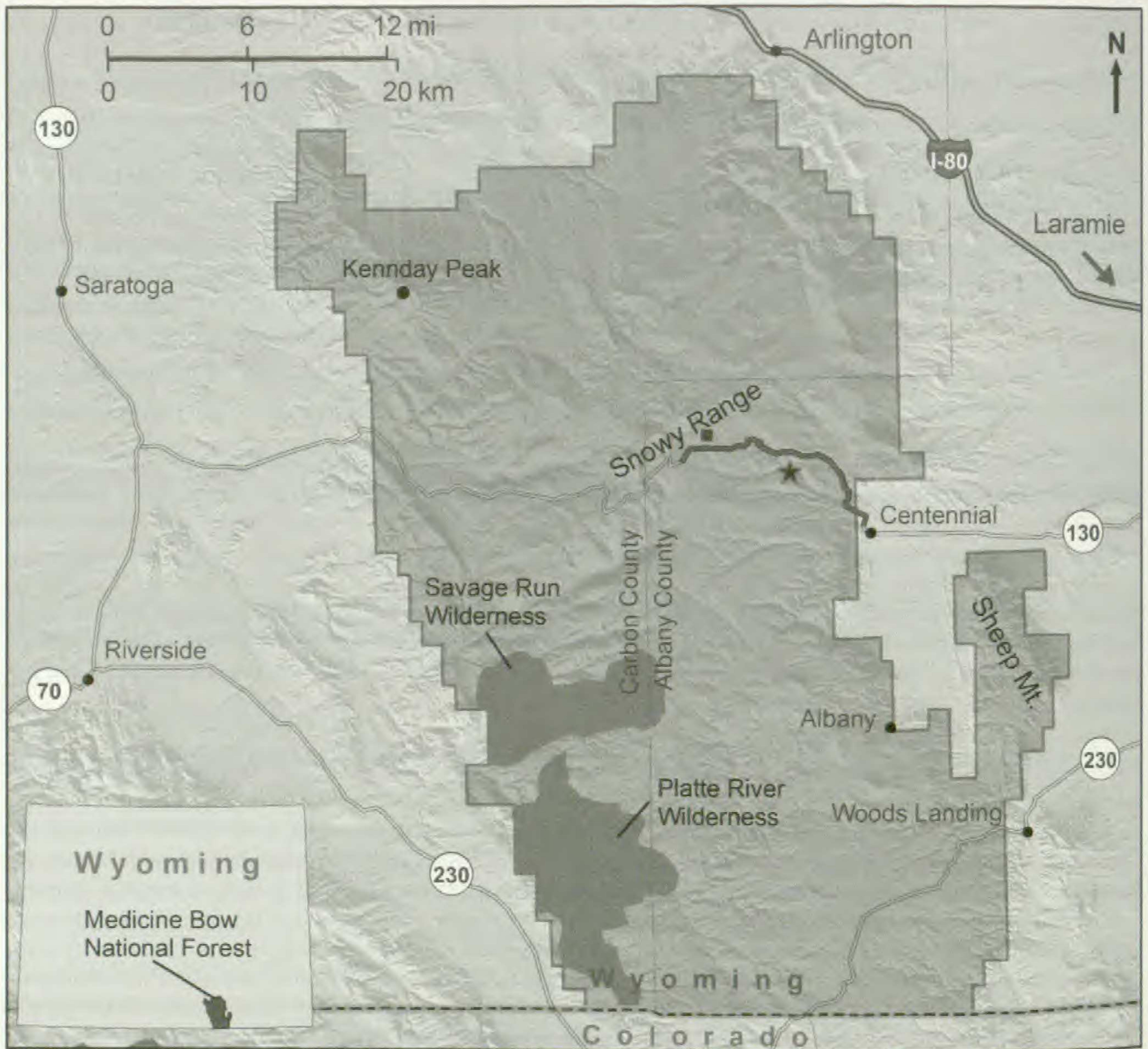


FIG. 1. Map of the Medicine Bow National Forest in southeastern Wyoming. The darkened line delineates the "Wyoming Highway 130 corridor" that had received primary attention (Centennial to Libby Flats). This is also true of Medicine Bow Peak, indicated by a solid square. The location of the UW Science Camp is represented by a star.

flora of the greater Rocky Mountain region (Hartman 1992; Hartman & Nelson 2011). To that end, 74 (52 by MS students) major floristic inventories have been conducted during the past 33 years in Arizona, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming. Over 650,000 new collections have been obtained by the graduate students, staff, and research associates of the RM. These specimens form the core of the RM Plant Specimen Database (730,000 specimen records, 35,000 specimen images, and 4,000 field images (Hartman et al. 2009)).

Study area.—The area encompasses 2,150 sq km (830 sq mi) mostly in the Medicine Bow National Forest in southeastern Wyoming (Fig. 1). It represents the northern half of the mountain range that extends north from Cameron Pass in Colorado. At its widest point, the range is 51 km (32 mi) across. The Colorado portion, not included in the study, consists of Roosevelt and Routt National Forests and state lands.

The Medicine Bows cover 218,535 ha (540,000 acres), 210,036 ha (519,000 acres) of which are managed by the Forest Service. It lies within the coordinates: N41.000° to N41.584° and W105.9763° to W106.6307°. Protected areas are the Savage Run Wilderness in the west central part that covers 6,040 ha (14,927 acres), the

Platte River Wilderness in the southwestern corner, 9,206 ha (22,749 acres), and the roadless area around Rock Creek Trail in the northeastern portion, 7,098 ha (17,540 acres) (Marston & Clarendon 1988).

The range is divided between Albany and Carbon counties (Fig. 1). The eastern boundary of the Forest lies about 30 miles west of Laramie whereas the western edge is about 10 miles east of Saratoga. Included in the area are two districts (Brush Creek and Laramie) of the Forest and some small parcels of adjacent Bureau of Land Management and state lands (Fig. 2, symbols beyond Forest boundary).

Wyoming Highway 130 runs east-west through the north central portion of the mountains while Wyoming Highway 230 travels southeast of Sheep Mountain into Colorado, reentering Wyoming just west of the range, and then northwest through Saratoga. Interstate 80 continues through Laramie and then northwest through Rawlins. Thus, it adjoins the range along the northeastern flank.

Topography.—The Wyoming Medicine Bows are surrounded by the Laramie Plains to the east, the Hanna Basin to the north, and the Saratoga Basin to the west. These peripheral areas range in elevation from 1,829–2,438 m (6,000–8,000 ft); 2,400 to 3,650 m (7,900–12,013 ft) for Forest proper. The Snowy Range (“Snowies”) runs northeast to southwest through the north central part of the Forest from 3,230–3,660 m (10,600–12,013 ft). They tower above the surrounding landscape, reaching 3,650 m (12,013 ft) on Medicine Bow Peak. Isolated at the forest’s northwestern corner is Kennaday Peak (3,295 m; 10,810 ft). Much of rest of the Medicine Bows is a plateau, at an elevation of about 2,743 m (9,000 ft), with river canyons and other drainages dissecting the range. The primary rivers are the Laramie on the east, the Medicine Bow on the north, and the North Platte on the west. Numerous glacial potholes dot the surface of the mountains’ northern half and glacial erratics lay strewn on the periphery. Isolated Sheep Mountain protrudes from the southeastern flank of the Medicine Bows.

Climate.—Wyoming has a semiarid climate. Periods of drought (precipitation less than 75 percent of normal for three months or longer) lasting ten years or more are common (Curtis & Grimes 2004). The basins surrounding the Medicine Bows receive 25–36 cm (10–14 in) of precipitation annually (Wyoming State Climate Office 2010). Precipitation increases with elevation, so the foothills receive 53–78 cm (21–32 in) of precipitation annually, while the highest elevations, around 3,353 m (11,000 ft) and above, receive up to 1.27 m (50 in) (Marston & Clarendon 1988).

The timing of wet and dry seasons also shifts with elevation. In the basins, most precipitation falls from late April to mid-July, while November to February is relatively dry (Wyoming State Climate Office 2010; Curtis & Grimes 2004). The high mountains receive most of their precipitation between October and May in the form of snow, with a peak from December to February, while the dry season is late summer to early fall (GLEES 2009).

Thunderstorms are common in the summer, particularly in July, and are most intense at lower elevations (Marston & Clarendon 1988). Hail is frequent at their onset but lasts only a few minutes. Between 1970 and 2000, 50 to 60 percent of wildfires were sparked by lightning strikes and spread by the strong winds that accompany these storms (Curtis & Grimes 2004).

Wyoming is the ninth coldest of the 50 states with an annual average temperature of 8.1° C (45.6° F) (Curtis & Grimes 2004). The highest mean temperatures in the basins surrounding the Medicine Bows are in early July and range from 16.1 to 18.9° C (61 to 66° F), while the maximum temperature during the summer is 32.2° C (90° F) and the minimum is 7.8° C (46° F). Growing seasons are short, averaging 90 frost free days from June to September (Marston & Clarendon 1988). Temperatures also fluctuate rapidly during the growing season. The coldest month in the lowlands is January with a mean temperature of -6.7 to -5.6° C (20 to 22° F), a maximum normal of -0.55 to 0.55° C (31 to 33° F), and a minimum normal of -10.6 to -13.3° C (8 to 13° F) (Wyoming State Climate Office 2010).

The annual average temperature at montane elevations in the Medicine Bows ranges from -1.1 to 4.4° C (30 to 40° F). The growing season is very short with an average of 61–80 frost free days in the foothills, 41–60 in the mountains, and just a few days in the alpine zone. At 11,000 ft (3,353 m), the temperature can be as low as -45.6° C (-50° F) in winter, but the mean hovers around freezing (Marston & Clarendon 1988; Heidel & Jones 2006).

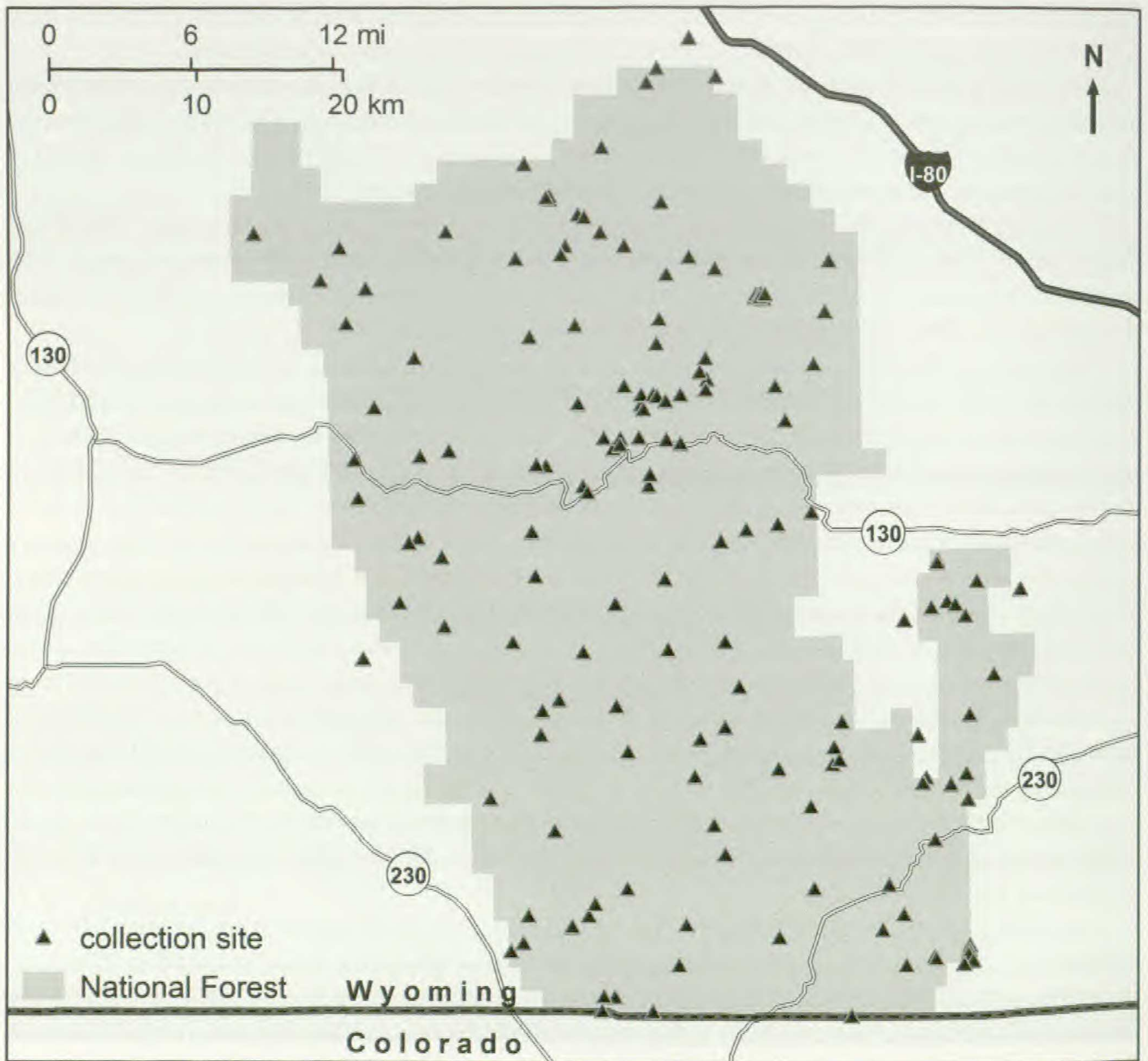


FIG. 2. Specimens were collected at 168 sites during 2007, 2008, and 2009, mostly within the confines of the Medicine Bow National Forest.

Wyoming is the windiest of the 50 states, and the Medicine Bows are in a particularly blustery spot. This is because there are no land masses to stop the prevailing west winds from attaining great speeds by the time they reach the area (Marston & Clarendon 1988). The wind tends to be strongest in the afternoons. In the winter, winds range from 48–64 km per hour (30–40 mi per hour) with gusts of 80–97 km per hour (50–60 mi per hour) and even 161 km per hour (100 mi per hour) (Marston & Clarendon 1988).

Especially strong winds may accompany summer storms. Microbursts are powerful downward surges of wind that can level areas of the forest. Tornadoes rarely occur in and around the Medicine Bows with only 37 reports from 1950 to 2003 (Curtis & Grimes 2004).

Geology and Geomorphology.—The Medicine Bow Mountains have a core consisting of Precambrian rocks that were pushed up during the Laramide Orogeny, 80 to 50 million years ago. During this time, the Earth's crust was pushed from west to east, shifting Precambrian basement rocks against younger sedimentary strata (Miller et al. 1992). These Cretaceous strata are now exposed on the eastern flank (Munn and Arneson 1998). The foothills and basins surrounding the range are remnants of Oligocene, Miocene, and Pliocene deposits from inland seas (Hausel 1993; Stearn et al. 1979).

A five mile wide shear zone, the Cheyenne belt, cuts from northeast to southwest through the center of the range, crossing Wyoming 130 near the eastern border of the Medicine Bows (Knight 1990; Hausel 1993). This shear zone was created 1.7 to 1.8 billion years ago when the Earth's crust was displaced thousands of feet, elevating the southern plate and lowering the northern plate (Knight 1990; Sims et al. 2001).

The rocks south of the Cheyenne Belt are younger schist and gneiss (1.8 to 1.7 billion years old), Sherman Granite (1.4 billion years old), and mafic complexes (1.8 billion years old). Those north of this belt are Archean granite and gneiss (older than 2.5 billion years) overlain by quartzite and schist (2.5 to 1.7 billion years old; Hausel 1993; Marston & Clarendon 1988; Sims et al. 2001). The Snowy Range is a six-mile-long chunk of Medicine Peak Quartzite (2.4 to 2 billion years old), an extremely durable metamorphosed sandstone deposited by a Precambrian ocean or river (Hausel 1993; Houston 1968). This 6,000 foot thick formation rises over the surrounding landscape as it is more resistant to weathering (Knight 1990; Houston 1968). The Nash Fork formation, exposed across the central part of the range, is made of black slate, phyllites, stromatolites, metadolomite, and gabbro (Knight 1990; Hausel 1993; Houston et al. 1968).

During the Pleistocene, the northern half of the range was glaciated at least three times, during the Pre Bull Lake, Bull Lake, and Pinedale episodes (Pierce et al. 1976; Stearn et al. 1979). These glaciers scoured the range, carving out small valleys as well as Lake Marie, Lookout Lake, and leaving many ponds in the northwestern part of the range. The glaciers emptied into Centennial Valley depositing cobbles and boulders. Many areas have a discontinuous mantle of glacial deposits (Houston 1968).

METHODS

The procedures largely follow practices employed by graduate students and staff at the Rocky Mountain Herbarium for inventories in the region (Hartman 1992; Hartman & Nelson 2011). The primary objective was to collect the diversity of vascular plants throughout the growing season. L.E. Lukas, B.E. Nelson, and R.L. Hartman collected during the field seasons of 2007 (2 June to 15 September), 2008 (9 June to 6 September), and 2009 (7 June to 26 August).

Collection sites were selected for the most part using a stratified methodology. Furthermore the goal was to achieve relative even distribution of sites across the landscape. We also focused on unusual habitats such as carbonate soil, fens, and rocky outcrops. Sites where different community types intersected were frequented thus leading to the sampling of a greater diversity in plant species. Although a site generally was not revisited, adjacent ones were collected during different months to cover the range of phenology. Places where rare plants had previously been documented were often visited. This led to the development of a search image for these species and the associated habitat.

Plants were collected when in flower or fruit. In cases where they could be readily identified, vegetative samples were taken (e.g., *Salix* and *Populus*). Relevant data on location (including GPS reading) and habitat were recorded. At the end of the collecting route, the plastic bags of specimens were placed on ice in a cooler to prevent wilting. The following day the specimens were pressed and dried for a minimum of 48 hours.

Subsequently, the specimens were bundled and transported to the RM where they were frozen for periods of three days. This procedure killed any insects that may have survived the drying process. During the subsequent academic year, the specimens were identified using Dorn's 2001 edition of *Vascular Plants of Wyoming*, the *Flora of North America* (1993+), and other relevant literature. Regardless, the nomenclature in the checklist follows that in the Rocky Mountain Herbarium Database (Hartman et al. 2009). All taxa were checked against specimens verified by specialists. The species determination and other relevant data were entered into the RM Plant Specimen Database (Hartman et al. 2009). Labels were then generated. The original set of specimens is deposited at RM. A representative set of specimens was presented to the Medicine Bow–Routt National Forest. The remaining sets of duplicates have been distributed to other herbaria.

RESULTS AND DISCUSSIONS

Vegetation Types

The vegetation of the Medicine Bow Mountains has been described by many researchers. Its zonation has been defined based on plant communities at climax, that is, after succession has reached a stable state (Alexander et al. 1986; Cook 1996; Daubenmire 1943; Jones & Ogle 2000). Other investigators describe vegetation zones based on the current state (Peet 1981; Walford et al. 2001). This latter approach is followed in the subsequent discussion. First the plant communities are divided into broad physiognomic and zonal categories. Within each, the communities are discussed. As described below the discussions consist of a combination of literature citations and personal observations.

Forests and woodlands

According to Dillon et al. (2005) forests cover 79 percent of the Medicine Bows, of which lodgepole pine comprises 50 percent and subalpine fir/spruce 21 percent. The forests begin in the foothills as aspen and mixed conifer woodlands and end in alpine krummholz.

Subalpine fir/spruce forest.—These forests are the most frequent subalpine type throughout the Rocky Mountains. In the Medicine Bows they occur from 2,740–3,350 m (9,000–11,000 ft) and are the highest forest type, becoming ribbon communities or krummholz near and at timberline. *Abies bifolia* and *Picea engelmannii* are codominant, but the latter species is generally larger and older. Also there are a higher percentage of young individuals of *A. bifolia* in the understory, possibly due to vegetative reproduction and higher drought tolerance in seedlings compared with *P. engelmannii* (Alexander et al. 1986; Knapp & Smith 1982).

Understory vegetation generally is sparse, except at the highest elevations where the forest becomes dispersed. In forests with a dense canopy the understory is dominated by *Carex geyeri* and *Vaccinium scoparium*. Individuals of *Pinus contorta* are often present as are clones of *Populus tremuloides*. Other common associates in more open areas are *Arnica cordifolia*, *Erigeron glacialis*, *Erythronium grandiflorum*, *Fragaria virginiana*, *Hieracium triste*, *Juniperus communis*, *Ligusticum porteri*, *Noccea fendleri*, *Orthilia secunda*, *Osmorhiza depauperata*, *Pedicularis bracteosa*, *P. racemosa*, *Poa reflexa*, *P. wheeleri*, *Ribes lacustre*, *Rosa sayi*, and *Trisetum spicatum*.

Disturbance is somewhat less common in these forests than in lodgepole communities that occur at lower elevations. Stand-replacing fires may occur in the subalpine forest every 25 to 700 years. Blowdowns that can level large swathes of forest occasionally occur and may lead to bark beetle infestations (Peet 1981).

Lodgepole pine forest.—These forests cover much of the montane throughout the Rocky Mountains, where they are restricted to dry uplands (Jones & Ogle 2000). In the Medicine Bows, *Pinus contorta* is found at elevations from 2,440–3,050 m (8,000–10,000 ft). The canopy is usually closed and the understory sparse, dominated by *Carex geyeri*, *C. rossii*, *Juniperus communis* or *Vaccinium scoparium*. *Arceuthobium americanum* is a common parasite on branches of *P. contorta*. Other associates in more open areas are *Antennaria rosea*, *Arnica cordifolia*, *Berberis repens*, *Campanula rotundifolia*, *Orthilia secunda*, *Poa wheeleri*, *Rosa sayi*, *Shepherdia canadensis*, *Solidago simplex*, and *Trisetum spicatum*.

Lodgepole pine forests occur on many soil types, but especially ones that are acidic, well-drained, and granitic. They are able to occupy more arid conditions than subalpine fir and Engelmann spruce because they have a higher water-use efficiency (Knapp & Smith 1981).

Lodgepole pine trees often live less than 250 years (Dillon et al. 2005). Fire is more frequent in this community compared to the subalpine fir/spruce forest. Serotinous reproduction of *P. contorta* is more common below 2,773 m (9,100 ft). After fires, seed dispersal in proximity to one or more individuals may produce “doghair” stands (Porter 1962).

Pinus contorta forests in the southern Rocky Mountains are currently experiencing a major bark beetle outbreak. In 2007, most of the trees were green, despite pitch tubes through their bark. By 2009, vast swathes of the forest, especially on the western side of the range, were composed of only dead trees with orange needles.

Aspen forest.—These woodlands represent the only forest type in the Medicine Bows that consists largely of deciduous trees. Aspen can survive in part because of their photosynthetic bark which fixes carbon even at near-freezing temperatures (Pearson & Lawrence 1958; Strain & Johnston 1963). *Populus tremuloides* forests

grow at elevations from 1,980–2,890 m (6,500–9,500 ft). Small patches occur in the foothills along cold air drainages, at the interface between Precambrian granite and sedimentary rocks, along margins of coniferous forests, scattered throughout the mountains on north aspects, and lining stream margins.

The aspen understory is often diverse and lush. The composition remains similar regardless of elevation. It includes *Elymus glaucus*, *E. trachycaulus*, *Juniperus communis*, and *Rosa sayi*. Other associates are *Amelanchier alnifolia*, *Arnica cordifolia*, *Berberis repens*, *Carex geyeri*, *Galium boreale*, *Heracleum maximum*, *Ligusticum porteri*, *Lupinus argenteus* varieties, *Osmorhiza depauperata*, *Poa pratensis*, *P. reflexa*, *Prunus virginiana*, *Symphoricarpos* species, *Thalictrum fendleri*, *Vicia americana* var. *americana*, and *Viola nuttallii*.

Many aspen forests are fire dependent. Their clonal nature, due to extensive horizontal root systems, allows the trees to regenerate following a fire. With time, these forests may be replaced by conifers or become grassy areas (Alexander et al. 1986).

Douglas fir/limber pine woodland.—These woodlands occur on warm, dry sites with shallow, rocky soils derived from sedimentary strata. Thus they may be found along the western, southeastern, and northeastern margins of the range, generally below 2,590 m (8,500 ft). At low elevations these woodlands are restricted to north aspects.

Pseudotsuga menziesii/Pinus flexilis woodlands have a mostly closed canopy. This proved to be the most difficult forest to walk through as the understory is very dense and dominated by *Juniperus communis*. Aspen and lodgepole pine are also common, and there may be scattered individuals of *Pinus ponderosa*. Other common associates are *Antennaria rosea*, *Arnica cordifolia*, *Artemisia tridentata* var. *vaseyana*, *Berberis repens*, *Carex geyeri*, *Elymus spicatus*, *Eremogone congesta*, *Koeleria macrantha*, *Leucopoa kingii*, *Poa interior*, *Prunus virginiana*, *Purshia tridentata*, *Ribes cereum*, *Sedum lanceolatum*, and *Symphoricarpos* species.

Ponderosa pine woodland.—These woodlands are rare in the Medicine Bows. They exist primarily on the southern and western slopes of Sheep Mountain and on the southwestern flank in the Bennet Creek area. They occur at elevations from 2,480–2,590 m (8,150–8,500 ft) in deep, well-drained, gravelly, granite-derived soils (Wirsing 1973). At their upper margins, these woodlands grade into Douglas fir/limber pine forests.

Pinus ponderosa woodlands have a grassy or shrubby understory and an open canopy. The shrubs *Artemisia tridentata* var. *vaseyana*, *Juniperus communis*, and *Purshia tridentata* are common, as are the subshrubs or herbs *Anemone patens*, *Antennaria microphila*, *A. rosea*, *Arctostaphylos uva-ursi*, *Berberis repens*, *Carex geyeri*, *C. rossii*, *Drymocallis fissa*, *Eremogone fendleri*, *Lupinus argenteus* varieties, and *Penstemon virens*.

Shrublands

Shrublands cover 10 percent of the landscape (Dillon et al. 2005). They occur in basins and plains on the periphery of the range as well as throughout the mountains where edaphic factors are not favorable for the establishment of forests.

Sagebrush steppe.—This community type is widespread in southeastern Wyoming. The shrubs may be sparse to dense with a canopy to three feet in height. Herbaceous taxa are usually interspersed and ground cover may include a crust of mosses, lichens, and algae. In the Medicine Bows, *Artemisia nova* and *A. tridentata* subspecies *vaseyana* dominate, the latter being at higher, cooler, more mesic sites (Barker & McKell 1983).

The understory is dominated by grasses such as *Achnatherum nelsonii*, *Elymus cinereus*, *E. spicatus*, *Festuca idahoensis*, *Koeleria macrantha*, and *Hesperostipa comata*. Common herbs include *Balsamorhiza sagittata*, *Lupinus* species, *Oxytropis lagopus*, *O. lambertii*, and *Poa wheeleri*. Common shrubs are *Chrysothamnus viscidiflorus*, *Ericameria nauseosa* varieties, *Purshia tridentata*, *Ribes cereum*, *Rosa sayi*, and *Symphoricarpos* species. *Juniperus scopulorum* may occur as scattered individuals, especially in rocky places.

Grasslands and Forblands

Dry alpine meadow.—In the Medicine Bows, alpine vegetation starts around 3,350 m (11,000 ft) in elevation, but this may vary with aspect. The alpine climate is harsh with cold temperatures, windy conditions, and a short growing season. Although precipitation occurs almost daily, it is usually light and evaporation and also evapotranspiration by plants is high (Billings 1988). In response to such harsh conditions, alpine vegetation consists primarily of low perennial herbs and shrubs with proportionally high below ground biomass.

Common plants in dry alpine meadows of the Snowy Range are *Antennaria corymbosa*, *Aquilegia coerulea*, *Artemisia scopulorum*, *Cerastium arvense*, *Draba aurea*, *D. crassifolia*, *Elymus scribneri*, *Erigeron pinnatisectus*, *Eritrichum nanum*, *Festuca saximontana*, *Geum rossii*, *Hymenoxys grandiflora*, *Lewisia pygmaea*, *Luzula spicata*, *Mertensia viridis*, *Minuartia obtusiloba*, *M. rubella*, *Oxyria digyna*, *Packera fendleri*, *Paronychia pulvinata*, *Penstemon whippleanus*, *Phlox pulvinata*, *Poa glauca*, *Polemonium viscosum*, *Ribes lacustre*, *Selaginella densa*, *Silene acaulis*, *Solidago multiradiata*, *Tonestus pygmaeus*, *Trifolium dasyphyllum*, *T. parryi*, and *Trisetum spicatum*. Included here are fell-fields and scree slopes with a similar representation of species.

Moist to wet alpine meadow.—Such meadows occur around glacial ponds, along snowmelt streams, downhill from persistent snow banks, and in depressions. These areas are often on leeward slopes. The soil is either wet or moist throughout most of the growing season. Cryoturbation, which causes patterned ground, and solufication in moist soils damage plant roots and expose bare ground for colonization (Knight 1994).

Moist to wet alpine meadows may be dominated by woody plants, graminoids, or forbs. Common associates are *Agoseris glauca* var. *dasycephala*, *Arnica mollis*, *Bistorta vivipara*, *Carex macloviana*, *C. nova* var. *nova*, *C. phaeocephala*, *C. scopulorum*, *Chamerion angustifolium*, *Erigeron glacialis*, *E. grandiflorus*, *E. melanocephalus*, *Gaultheria humifusa*, *Juncus drummondii*, *Kalmia microphylla*, *Packera dimorphophylla*, *Pedicularis groenlandica*, *Phleum alpinum*, *Saxifraga rhomboidea*, *Sedum rhodanthum*, *Stellaria longipes*, *Trifolium parryi*, *Trollius albiflorus*, and *Veronica wormskjoldii*. In the wettest areas, *Deschampsia cespitosa* is prominent. Shrubs include *Salix brachycarpa*, *S. glauca*, and *S. planifolia*.

Wet montane meadow.—These meadows are found on margins of low-gradient streams and ponds. The soil is wet to moist throughout the growing season and the organic horizon is well developed (Jones & Ogle 2000). In the subalpine zone, *Bistorta bistortoides*, *Deschampsia cespitosa*, *Phleum alpinum*, and *Ranunculus alismifolius* are predominant. Other common wet meadow dwellers are *Caltha leptosepala*, *Epilobium* species, *Geum macrophyllum*, *Juncus arcticus*, *Pedicularis groenlandica*, *Trollius albiflorus*, and *Zigadenus elegans*.

Dry montane meadow.—There are many dry parks and smaller meadows on the margins of coniferous forests. It is not always known how they are able to persist for long periods of time. Explanations for the exclusion of trees include dry, fine-textured soils, high competition from the roots of herbs and graminoids, microclimates that are too cold, or soil that is too shallow such as along ridge tops blown free of snow (Jackson 1957; Knight 1994).

Festuca idahoensis and *Poa secunda* varieties, and *P. cusickii* are often dominant at higher elevations. Other common species are *Carex foenea*, *Elymus smithii*, *E. trachycaulus*, *Eremogone fendleri*, *Erigeron compositus*, *Frasera speciosa*, *Koeleria macrantha*, *Leucopoa kingii*, *Lewisia pygmaea*, *Oxytropis campestris*, *Packera cana*, *Phlox pulvinata*, and *Potentilla diversifolia*.

Northern mixedgrass prairie.—This is the common vegetation type in the Laramie Plains. In some places it extends into the foothills where one would normally expect to find sagebrush steppe. This is usually due to the presence of high winds or shallow soil. Here the soil may be fine and derived from sedimentary strata (Sims et al. 2001). Dominants include grasses *Bouteloua gracilis*, *Hesperostipa comata*, *Koeleria macrantha*, *Elymus cinereus*, *E. smithii*, *Festuca idahoensis*, *Leucopoa kingii*, *Poa fendleriana* ssp. *longiligula*, and *P. secunda* ssp. *secunda*. Cushion plants such as *Eremogone congesta* and *Paronychia sessiliflora* are dominant in the windiest spots. Common forbs include: *Allium textile*, *Antennaria microcephala*, *Artemisia frigida*, *Astragalus flexuosus*, *A. spatulata*, *Castilleja angustifolia*, *Cryptantha virgata*, *Drymocallis fissa*, *Erigeron eatonii*, *Eriogonum flavum*, *Erysimum capitatum* var. *purshii*, *Heterotheca villosa*, *Linum lewisii*, *Oxytropus lambertii*, *Packera cana*, *Penstemon virens*, *Phlox hoodii*, *Senecio integerrimus* var. *exaltatus*, and *Sphaeralcea coccinea*.

Wetlands

Riparian conifer forest.—Numerous creeks and rivers flow through the various forest types providing habitat for this distinct community. Regardless, *Picea engelmannii* is often the dominant overstory species. Patches of *Picea pungens*, *Populus angustifolia* along creeks in the non-forested lowland and *P. tremuloides* may also be found here. Riparian conifer forests cover the elevational range from 2,400 to over 3,050 m (7,900 to over 10,000 ft).

Common species encountered along forested riparian areas are *Alnus incana*, *Androsace* species, *Caltha leptosepala*, *Calamagrostis canadensis*, *Carex* species, *Cornus sericea*, *Deschampsia cespitosa*, *Equisetum arvense*, *Glyceria* species, *Luzula parviflora*, *Mertensia ciliata*, *Mimulus guttatus*, *Mitella pentandra*, *Platanthera* species, *Primula pauciflora*, *Saxifraga odontoloma*, *Senecio triangularis*, and *Streptopus amplexifolius*.

Riparian shrubland.—This community occurs from the foothills to the alpine. The canopy ranges from two to five feet in height. Herbaceous species grow interspersed with the shrubs. The soil is moist, acidic, and generally mineral (Jones & Ogle 2000).

Most riparian shrublands are dominated by a variety of *Salix* species. *Salix boothii* is common in valley bottoms and is bordered by either sagebrush steppe, aspen woodlands, or conifer forest. *Salix geyeriana* and *S. planifolia* occurs in mid to high elevations along streams, seeps, and depressions. Other common species growing in riparian shrublands are *Alnus incana*, *Betula glandulosa*, *Caltha leptosepala*, *Carex aquatilis*, *C. utriculata*, *Deschampsia cespitosa*, *Geum macrophyllum*, *Juncus arcticus*, *Mertensia ciliata*, *Pedicularis groenlandica*, *Swertia perennis*, and *Symphyotrichum foliaceum* varieties.

Fen.—Peatlands are wetlands with cool, anaerobic soils that allow the accumulation of a thick horizon of partially decayed organic matter. This organic layer is called peat, which varies in depth (Heidel & Jones 2006). Fens are minerotrophic peatlands, that is, ones fed by groundwater or surface water. Fens are important because they are home to restricted species that represented over 10 percent of the species of conservation concern in Wyoming (Heidel & Laursen 2003). Ten such species occur in fens in the Medicine Bows, nine of which are generally boreal in distribution (Heidel & Jones 2006). Of these ten species, *Carex leptalea*, *C. limosa*, *C. paupercula*, and *Salix candida* are the most frequent and at times are dominant.

Fens are common in parts of the montane zone of the Medicine Bows. They are mostly associated with low-gradient streams (Heidel & Jones 2006). Fens are dominated by graminoids, shrubs, and various moss species (Heidel & Jones 2006). Common taxa are *Betula glandulosa*, *Carex aquatilis*, *C. canescens*, *C. capillaris*, *C. jonesii*, *C. paupercula*, *C. utriculata*, *Conioselinum scopulorum*, *Eleocharis quinqueflora*, *Epilobium* species, *Gentianopsis detonsa*, *Oxypolis fendleri*, *Pedicularis groenlandica*, *Salix planifolia*, *Sedum rhodanthum*, and *Viola macloskeyi*.

Pond.—Most of the ponds and small lakes are located toward the northern end of the range in Carbon County. These were formed by glaciers during the Pleistocene. Other ponds occur in moist to wet meadows throughout the Medicine Bows.

The ponds are generally surrounded by an outer band of *C. aquatilis* and an inner band of *Carex utriculata*. Other common aquatic and semi-aquatic taxa are *Callitriche hermaphroditica*, *C. palustris*, *Carex limosa*, *C. paupercula*, *Eleocharis palustris*, *E. quinqueflora*, *Glyceria* species, *Hippuris vulgaris*, *Lemna trisulca*, *Myriophyllum verticillatum*, *Nuphar polysepala*, *Potamogeton epihydrus*, *P. pusillus*, *P. richardsonii*, *Ranunculus flammula*, and *Sparganium angustifolium*.

Disturbed

Clear-cut/burn.—Areas of lodgepole pine forests that have been clear-cut are common, as are various montane habitats that are open due to wildfires. Either of these disturbance types are colonized by a similar assemblage of plants. Especially common are *Achillea millefolium* and *Antennaria rosea*. Other components include *Agrostis scabra*, *Boechera stricta*, *Bromus inermis*, *Campanula rotundifolia*, *Carduus nutans*, *Ceanothus velutinus*, *Collomia linearis*, *Dactylis glomerata*, *Elymus elymoides* var. *brevifolius*, *Festuca saximontana*, *Gayophytum diffusum*, *Lupinus argenteus* varieties, *Matricaria discoidea*, *Packera fendleri*, *Poa arida*, *P. interior*, *Potentilla gracilis* var. *pulcherrima*, *Rosa sayi*, *Spergularia rubra*, and *Trisetum spicatum*.

Roadside.—Margins of roads and similarly disturbed areas provide habitat for many weedy species. Included are exotics such as *Agropyron cristatum* var. *desertorum*, *Bromus inermis*, *Capsella bursa-pastoris*, *Dactylis glomerata*, *Melilotus officinalis*, *Phleum pratense*, *Spergularia rubra*, *Taraxacum erythrospermum*, *T. officinale*, *Tragopogon dubius*, *Trifolium hybridum*, *T. repens*, *T. pratense* and natives such as *Achillea millefolium*, *Anaphalis margaritacea*, *Antennaria parvifolia*, *Boechera stricta*, *Campanula rotundifolia*, *Castilleja linariifolia*, *Chamerion*

angustifolium varieties, *Elymus elymoides* var. *brevifolius*, *E. trachycaulus* var. *trachycaulus*, *Eremogone congesta*, *Erigeron subtrinervis*, *Gayophytum diffusum*, *Matricaria discoidea*, *Oxytropis lambertii*, and *Solidago simplex*.

Species Newly Documented In Wyoming

Carex arcta is a circumboreal species. It was found at three locations in the Long Lake–Stillwater Park area in the northwestern portion of the Medicine Bows (Hartman 70269, 70331, 70338). This area is dotted with glacial pot-hole ponds and streams, the habitat in which all specimens were growing. The nearest populations occur in Idaho and Montana. The identity of all specimens was verified by Andrew Hipp of the Morton Arboretum.

Alchemilla filicaulis ssp. *filicaulis* was documented for the first time in Wyoming. This species is native to Europe and possibly Greenland and eastern Canada. It may have been introduced to North America by early European colonizers who used it as an herbal remedy. It is likely that the Wyoming populations were originally planted, as they were found in the Keystone area, within half a mile of buildings. Forest Service ecologist Kathy Roche first discovered the plants. Laura Lukas and Elena Kosovich (Lukas 2677, Kosovich s.n.) subsequently collected specimens from separate populations, and the specimens' identity was verified by John McNeill of the Royal Botanic Garden, Edinburgh.

Taxa of Conservation Concern

Twenty-two taxa of special concern were found at 51 sites during this survey. According to the Wyoming Natural Diversity Database (Heidel 2007), these are taxa with either an S1 (critically imperiled) or an S2 (imperiled) status in Wyoming. An update (Heidel 2012) subsequent to the completion of the project indicates that five taxa have been removed from this list (indicated in this enumeration by an open diamond; ◇). Many of these taxa are globally secure but rare in portions of their range. *Astragalus leptaleus*, *Carex nelsonii*, *Chionophila jamesii*, *Cymopterus alpinus*, *Erigeron elatior*, *Packera pseudaurea* var. *flavula*, *Paronychia pulvinata*, *Penstemon cyathophorus*, and *Tonestus pygmaeus* appear restricted to the Rocky Mountain region. Comments on species of special concern found in this study follow. Included are an additional 27 taxa documented by other workers. All are indicated by a closed diamond (◆) in the annotated checklist. Distribution data were derived in part from Kartesz, The Biota of North America Program (2011).

Agrostis mertensii Trin. is circumboreal and in the high mountains to the south in western North America; also known from eastern North America. It was growing in an alpine fellfield. Voucher: Lukas 8371.

Astragalus leptaleus A. Gray is restricted to Colorado, Idaho, Montana, and Wyoming. It was found along Laramie River near of Woods Landing. Voucher: Nelson 74948

Besseya alpina (A. Gray) Rydb. is restricted to Colorado, New Mexico, Utah, and Wyoming. This species was growing in an alpine boulder field. Voucher: Hartman 86342.

◇ **Carex leptalea** Wahlenb. is scattered throughout North America, Mexico, and the West Indies. It was collected in a fen on Sheep Mountain. Voucher: Hartman 86120a.

◇ **Carex limosa** L. occurs throughout northern North America and Eurasia. It was growing among ponds. Voucher: Lukas 7560.

Carex nelsonii Mack. is restricted to the mountains of Colorado, Montana, Utah, and Wyoming. This plant occurred near an alpine pond. Voucher: Lukas 7464b.

Carex occidentalis L.H. Bailey occurs from the northern Great Plains to the Southwest and Texas. It was found in sagebrush steppe and on the edge of an aspen forest and moist meadow. Vouchers: Lukas 3625, 4854.

Chionophila jamesii Benth. is endemic to the mountains of Colorado, New Mexico, and Wyoming. It occurred occasionally in dry and moist alpine meadows. Vouchers: Hartman 86311, Lukas 1852, 1906, 6245, 7732, 10639.

Cymopterus alpinus A. Gray is confined to the southern Rocky Mountains. It was growing on rock outcrops in openings in conifer forests. Vouchers: Hartman 85293, Lukas 5856.

Erigeron elatior (A. Gray) Greene is restricted to Colorado, New Mexico, Utah, and Wyoming. It was growing in moist montane meadows and shrublands near open conifer forests. Vouchers: Lukas 2217, 7243, 7274.

- Erigeron pinnatisectus** (A. Gray) A. Nelson is restricted to Colorado, New Mexico, and Wyoming. It was common in dry alpine boulder slopes and meadows. Vouchers: *Hartman 86330, Lukas 1896, 1940, 7718, 7805, 8327, 10626.*
- Ipomopsis tenuituba** (Rydb.) V.E. Grant ssp. **tenuituba** occurs from Colorado and Wyoming west to California. It was growing in dry montane parks and foothill sagebrush steppe. Vouchers: *Lukas 7135, 10306, 10725.*
- ◇ **Juncus filiformis** L. is a circumboreal species restricted to Arizona, Colorado, Utah, and Wyoming. It was growing on a sunny montane creek bank. Voucher: *Lukas 3805.*
- Packera pseud aurea** (Rydb.) W.A. Weber & Á. Löve var. **flavula** (Greene) D. K. Trock & T. M. Barkley is restricted to Colorado, Idaho, New Mexico, and Wyoming. It was found in a meadow along the Laramie River near of Woods Landing. Voucher: *Nelson 74934*
- Paronychia pulvinata** A. Gray is restricted to Colorado, New Mexico, Utah, and Wyoming at high elevations. It was growing in rocky alpine areas. Vouchers: *Hartman 86348, Lukas 1959.*
- Penstemon cyathophorus** Rydb. is restricted to Colorado and Wyoming. It was found in rocky foothill sagebrush steppe. Voucher: *Lukas 5513.*
- Pyrrocoma crocea** (A. Gray) Greene var. **crocea** is restricted to Colorado, New Mexico, Utah, and Wyoming. It was growing in dry lodgepole pine forest edges and dry parks. Vouchers: *Lukas 6900, 7122, 7836.*
- Salix candida** Flüeggé ex Willd. occurs throughout northern North America south through the Rockies to Colorado. It is restricted to calcareous soils and was collected in a fen on Sheep Mountain. Voucher: *Hartman 86121.*
- Senecio bigelovii** A. Gray var. **hallii** A. Gray is restricted to the mountains of Arizona, Colorado, New Mexico, and southern Wyoming. It was found in a variety of moist, montane habitats such as aspen groves and meadows. Vouchers: *Lukas 1816, 2369, 2721, 2849, 3793, 4496.*
- ◇ **Sparganium natans** L. is a circumboreal species that dips south in the West. It was found in a montane stream and pond. Vouchers: *Hartman 86213, Lukas 7943.*
- Tonestus pygmaeus** (Torr. & A. Gray) A. Nelson is restricted to the mountains of Colorado, Montana, New Mexico, and Wyoming. It was growing in dry, rocky alpine situations. Vouchers: *Hartman 86347, Lukas 8331, 10628.*
- ◇ **Viburnum edule** (Michx.) Raf. ranges across northern North America and south to Colorado and California. These plants were collected from a montane shady creek-side and a rocky slope in a lodgepole pine forest. Vouchers: *Lukas 2346, 3942.*

Exotic and Invasive Species

Exotic and often invasive species may dramatically impact species diversity and composition. Approximately 6.1 percent of the taxa found during this inventory were of exotic origin (Kartesz, The Biota of North America Program 2011) and 59 percent of these are classified as invasives. Seven of the 25 noxious weeds listed by the Wyoming Weed and Pest Council (2011) were documented. They were *Cardaria draba*, *Carduus nutans*, *Cirsium arvense*, *Cynoglossum officinale*, *Elymus repens*, *Leucanthemum vulgare*, and *Linaria vulgaris*. In the annotated checklist they are indicated by a dot (●). Of the seven noxious weed species found, only *Cardaria draba* and *Cynoglossum officinale* were growing exclusively in heavily disturbed sites. The other taxa, in addition to being found along roadsides and in clear-cuts or burns, were found in meadows with little or no evidence of recent human activity.

Summary of Taxa

A total of 910 unique or terminal taxa were collected, represented by 9,837 specimens taken from 168 sites (Figure 2). Below is a summary of the plants encountered during the study. Values in parentheses are taxa collected by others workers and housed at RM. These appear in the checklist with associated collector and collection number, county, elevation, and habitat if available.

List by taxonomic category

Families	88
Genera	376
Species	835(201)
Hybrids	2(1)
<u>Infraspecies</u>	<u>73(10)</u>
Unique taxa	910(212)
Unique taxa combined	1122

List by special category

Exotic taxa	51(18)
Percent exotic taxa	6.1
WY Noxious weeds	7(3)
Species of conservation concern	22(27)
State records	2

Unique taxa recorded by Nelson 1974 781

List of unique taxa by major plant group

Fern Allies	6(3)
Ferns	5(9)
Gymnosperms	10
Angiosperms	889(190)

During his 1974 study, B.E. Nelson recorded 781 unique taxa, 93 percent of which were also found during this inventory.

CONCLUSIONS

This inventory expanded the floristic coverage of the Medicine Bow Mountains in Wyoming with 9,837 new collections representing 910 unique taxa and two unnamed hybrids. In addition, 212 taxa were added from other collections at RM. We found that the flora of the Medicine Bow Mountains has relatively few exotics and invasive species. It also contained a respectable number of species of conservation concern. Two new species for Wyoming were documented: *Alchemilla filicaulis* ssp. *filicaulis* and *Carex arcta*. The former is native to Europe and possibly parts of Greenland, and eastern Canada. Its occurrence in the Medicine Bows most likely is due to deliberate plantings. These populations are currently small but should be monitored in case they become invasive. *Carex arcta* is distributed across northern North America, and has been recorded as far south as Idaho, Montana, and the mountains of California.

ANNOTATED CHECKLIST

The checklist is organized alphabetically by family and species. Nomenclature follows the RM Plant Specimen Database (Hartman et al. 2009). Below is a key to the abbreviations for vegetation types and status of individual taxa. The format of each listing is as follows: *Taxon* Authority (**number of vouchers collected**) county; elevation; vegetation type. Taxa collected by workers unrelated to this inventory are denoted by the collector's name and number, county, elevation, and vegetation type (initials omitted for R.L. Hartman and B.E. Nelson).

County abbreviations:

A Albany C Carbon

Habitat type:

asf	Aspen forest
ccb	Clear-cut/burn
dam	Dry alpine meadow
dlw	Douglas fir/limber pine woodland
dmm	Dry montane meadow
fen	Fen
lpf	Lodgepole pine forest
mwa	Moist to wet alpine meadow
nmp	Northern mixedgrass prairie
pnd	Pond/aquatic
ppw	Ponderosa pine woodland

rcf	Riparian conifer forest
rds	Roadside
rsl	Riparian shrubland
sbs	Sagebrush steppe
sfs	Subalpine fir/spruce forest
wmm	Wet montane meadow

Symbols preceding taxon:

*	Species exotic to Wyoming
●	Noxious weed in Wyoming
◆	Species of conservation concern
!	New record for Wyoming
x	Putative hybrid

FERN ALLIES

Equisetaceae

Equisetum arvense L. (53) A, C; 7460–10020'; asf, fen, rcf, rsl, sfs, wmm

Equisetum x ferrissii Clute; Nelson 1113; A; 9100'; lpf

Equisetum hyemale L. var. *affine* (Engelm.) A. A. Eaton (17) A, C; 7460–9210'; asf, rcf, rsl, sbs, sfs, wmm

Equisetum laevigatum A. Braun (7) A, C; 7640–8760'; asf, rcf, sbs, wmm

Equisetum variegatum Schleich. ex F. Weber & D. Mohr (1) C; 8710'; rcf

Isoëtaceae

Isoetes bolanderi Engelm. var. *bolanderi* (4) C; 9030–10710'; pnd

Lycopodiaceae

Lycopodium annotinum L.; R.D. Dorn 4168; C; 8300'; rcf

Selaginellaceae

Selaginella densa Rydb. (29) A, C; 7460–11750'; dam, dlw, dmm, mwa, nmp, ppw, rsl, sbs, sfs, wmm

♦ *Selaginella mutica* D.C. Eaton ex Underw. var. *mutica*; R.E. Brooks 3770; C; 8500'; sfs

FERNS

Aspleniaceae

Asplenium septentrionale (L.) Hoffm.; Nelson 13476; C; 8500'; rock outcrop

♦ *Asplenium trichomanes-ramosum* L.; Nelson 994; C; 10300'; rock outcrops

Dennstaedtiaceae

Pteridium aquilinum (L.) Kuhn var. *latiusculum* (Desv.) Underw. ex A. Heller; W.B. Jones 162; A; 8500'; rock outcrop

Dryopteridaceae

♦ *Athyrium alpestre* (Hoppe) Clairv. var. *americanum* Butters; M. Ownbey 1124; A; 11000–11300'; rock outcrop

Cystopteris fragilis (L.) Bernh. (15) A, C; 7620–11750'; dam, dlw, dmm, lpf, rcf, sbs, sfs, wmm

Dryopteris filix-mas (L.) Schott; A. Nelson 10566; A; 10000'; rock outcrop

Woodsia oregana D.C. Eaton var. *cathcartiana* (B. L. Rob.) C.V. Morton (9) A, C; 7440–9330'; asf, dlw, dmm, nmp, sbs

Woodsia oregana D.C. Eaton var. *oregana* (1) C; 8070–8570'; sbs

Woodsia scopulina D.C. Eaton ssp. *scopulina* (1) A; 8000–8100'; dlw

Ophioglossaceae

Botrychium lunaria (L.) Sw.; R.D. Dorn 1447; A; 10800–10900'; dmm

Polypodiaceae

Polypodium saximontanum Windham; Nelson 13475; C; 8300'; rock outcrop

Pteridaceae

Cryptogramma acrostichoides R. Br. (2) C; 10550–10970'; dmm

Pellaea breweri D.C. Eaton; Nelson 1003; A; 10300'; rock outcrop

Pellaea glabella Mett. ex Kuhn var. *occidentalis* (E. E. Nelson) Butters; R.D. Dorn 1974; C; 10000'; rock outcrop

GYMNOSPERMS

Cupressaceae

Juniperus communis L. var. *depressa* Pursh (69) A, C; 7460–11750'; asf, ccb, dam, dlw, dmm, fen, lpf, mwa, pnd, ppw, rcf, rds, rsl, sbs, sfs, wmm

Juniperus scopulorum Sarg. (11) A, C; 7440–8590'; asf, dlw, lpf, sbs

Pinaceae

Abies bifolia A. Murray bis (46) A, C; 7460–11750'; asf, dam, dmm, fen, lpf, mwa, rcf, sbs, sfs, wmm

Picea engelmannii Parry ex Engelm. var. *engelmannii* (60) A, C; 7890–11750'; asf, dam, dmm, fen, lpf, mwa, pnd, rcf, rds, rsl, sfs, wmm

Picea glauca (Moench) Voss (1) A; 10250–10540'; mwa

Picea pungens Engelm. (4) A, C; 8020–9910'; rcf, sfs

Pinus contorta Douglas ex Loudon var. *latifolia* Engelm. (60) A, C; 8020–10600'; asf, ccb, dam, dlw, dmm, fen, lpf, pnd, ppw, rcf, rsl, sbs, sfs, wmm

Pinus flexilis E. James (24) A, C; 7440–10280'; asf, ccb, dlw, dmm, lpf, nmp, sbs, sfs

Pinus ponderosa C. Lawson & P. Lawson var. *scopulorum* Engelm. (10) A, C; 7460–9330'; dlw, ppw, rds, sbs, wmm

Pseudotsuga menziesii (Mirb.) Franco var. *glauca* (Beissn.) Franco (19) A, C; 7440–9330'; asf, dlw, dmm, lpf, sbs

ANGIOSPERMS

Adoxaceae

♦ *Adoxa moschatellina* L.; G. Osterhout s.n.; A; 7700'

Sambucus racemosa L. var. *melanocarpa* (A. Gray) McMinn (3) A, C; 7620–10710'; dlw, wmm

Sambucus racemosa L. var. *microbotrys* (Rydb.) Kearney & Peebles (14) A, C; 7510–10710'; fen, rcf, sbs, sfs, wmm

♦ *Viburnum edule* (Michx.) Raf. (2) A, C; 8270–8920'; lpf, rcf

Alismataceae

Alisma triviale Pursh (1) C; 8920'; pnd

Sagittaria cuneata E. Sheld. (3) C; 8210–9120'; pnd, wmm

Alliaceae

Allium acuminatum Hook.; B. Torgny BC-75; C; 8100–8200'; dmm

Allium brevistylum S. Watson (41) A, C; 7460–10280'; asf, fen, dlw, dmm, lpf, rcf, rsl, sbs, sfs, wmm

Allium cernuum Roth (9) A, C; 7640–9220'; dmm, sbs

Allium geyeri S. Watson var. *geyeri* (1) A; 7630'; rsl

Allium geyeri S. Watson var. *tenerum* M.E. Jones (2) C; 8030–8910'; dmm, wmm

Allium schoenoprasum L. (1) C; 8210'; rsl

Allium textile A. Nelson & J.F. Macbr. (5) A; 7740–8140'; nmp, ppw, sbs

Amaranthaceae

* *Amaranthus albus* L.; B. Hammel 528; A; 8100'; rds

Amaranthus blitoides S. Watson; J.F. Reed 3098; A; 8000'; rds

Amaranthus powellii S. Watson (1) A; 7440'; sbs

Amaranthus retroflexus L.; Nelson 1050; A; 7500'; rds

Atriplex gardneri (Moq.) D. Dietr. var. *utahensis* (M.E. Jones) Dorn (1) A; 8020'; rds

* *Atriplex rosea* L.; B. Hammel 726; A; 7500'; rds

Atriplex truncata (Torr. ex S. Watson) A. Gray (1) A; 7380–7400'; nmp

Chenopodium atrovirens Rydb. (7) A, C; 7460–9580'; ccb, dmm, sbs

Chenopodium berlandieri Moq. var. *zschackei* (Murr) Murr ex Asch. (1) C; 8140–8750'; dmm

Chenopodium capitatum (L.) Ambrosi var. *capitatum* (1) A; 7640–8220'; ccb

Chenopodium capitatum (L.) Ambrosi var. *parvicapitatum* S. L. Welsh (1) A; 8530'; rcf

Chenopodium desiccatum A. Nelson (1) A; 7380–7400'; nmp

Chenopodium fremontii S. Watson; Nelson 961; A; 8100'; rsl

Chenopodium leptophyllum (Moq.) Nutt. ex S. Watson (1) A; 7640–8220'; sbs

Chenopodium pratericola Rydb. (1) C; 7620'; sbs

Corispermum welshii Mosyakin; Nelson 18345; C; 8300'; rds

Krascheninnikovia lanata (Pursh) A. Meeuse & A. Smit (1) A; 7740–7880'; ppw

Monolepis nuttalliana (Schult.) Greene (5) A, C; 7640–9580'; ccb, dmm, nmp, rcf, sbs

* *Salsola tragus* L. (1) A; 7380–7400'; nmp

Anacardiaceae

Rhus trilobata Nutt. var. *trilobata* (1) A; 7380–7400'; nmp

Apiaceae

Angelica ampla A. Nelson (3) A, C; 7510–8210'; rsl, sbs

Angelica grayi (J.M. Coult. & Rose) J.M. Coult. & Rose (4) A, C; 9510–11090'; mwa, rcf, wmm

Angelica pinnata S. Watson (14) A, C; 7640–9580'; asf, ccb, fen, rcf, rsl, wmm

**Carum carvi* L.; Nelson 13373; A; 8900'; rds

Conioselinum scopulorum (A. Gray) J.M. Coult. & Rose (20) A, C; 7640–9930'; asf, ccb, fen, rcf, rsl, wmm

Cymopterus acaulis (Pursh) Raf.; W. Fertig 16480; A; 8000'; sbs

♦ *Cymopterus alpinus* A. Gray (2) A; 8400–10280'; ppw, sfs

Cymopterus lemmonii (J.M. Coult. & Rose) Dorn (1) C; 8140–8750'; dlw

Cymopterus longipes S. Watson (1) C; 7880'; sbs

Cymopterus terebinthinus (Hook.) Torr. & A. Gray var. *albiflorus* (Torr. & A. Gray) M.E. Jones; Hartman 24314; A; 9000–9500'; ppw

Harbouria trachypleura (A. Gray) J.M. Coult. & Rose (19) A, C; 7640–9450'; dlw, ccb, dmm, nmp, ppw, sbs

Heracleum maximum Bartr. (15) A, C; 7460–9450'; asf, ccb, rcf, sfs, rsl, wmm

Ligusticum porteri J.M. Coult. & Rose var. *porteri* (58) A, C; 7460–11090'; asf, dmm, fen, lpf, mwa, pnd, rcf, rsl, sfs, wmm

Lomatium dissectum (Nutt.) Mathias & Constance var. *multifidum* (Nutt.) Mathias & Constance (3) C; 7880–8300'; rds, sbs

Lomatium orientale J.M. Coult. & Rose (4) A, C; 7460–9250'; ppw, sbs

Lomatium triternatum (Pursh) J.M. Coult. & Rose var. *platycarpum* (Torr.) B. Boivin (2) A, C; 8290–8530'; sbs, sfs

Musineon tenuifolium Nutt. ex Torr. & A. Gray (1) A; 9180'; lpf

Orogenia linearifolia S. Watson; Hartman 2976; C; 8400–8700'; wmm

Osmorhiza chilensis Hook. & Arn. (12) C; 7890–9710'; asf, rcf, sfs

Osmorhiza depauperata Phil. (52) A, C; 7460–10970'; asf, dlw, dmm, fen, lpf, rcf, rsl, sfs, wmm

Oxypolis fendleri (A. Gray) A. Heller (26) A, C; 8370–9930'; dmm, fen, rcf, rsl, sfs, wmm

Perideridia montana (Blank.) Dorn (7) A, C; 8070–8890'; asf, dmm, rsl, sbs

Sium suave Walter (2) C; 8210–8920'; pnd, rcf

Zizia aptera (A. Gray) Fernald (1) A; 8070'; rcf

Apocynaceae

Apocynum androsaemifolium L. (1) C; 8020–8030'; sbs

Apocynum cannabinum L. (1) C; 7510'; sbs

Asclepias hallii A. Gray; C.L. Porter 7498; A; 7600'; rds

Asclepias speciosa Torr. (1) A; 8070'; rds

Araceae

Lemna trisulca L. (2) C; 9630'; pnd

Asparagaceae

Leucocrinum montanum Nutt. ex A. Gray (1) A; 8510–8530'; sbs

Maianthemum stellatum (L.) Link (18) A, C; 7440–9450'; asf, lpf, rcf, rds, rsl, sbs, sfs, wmm

Yucca glauca Nutt.; A. Nelson 1460; A; 7700'

Asteraceae

Achillea millefolium L. (87) A, C; 7460–11750'; asf, ccb, dam, dmm, fen, lpf, mwa, pnd, rcf, rds, rsl, sbs, sfs, wmm

Agoseris aurantiaca (Hook.) Greene var. *aurantiaca* (36) A, C; 7460–11000'; asf, ccb, dmm, fen, lpf, pnd, rcf, rsl, sbs, sfs, wmm

Agoseris aurantiaca (Hook.) Greene var. *purpurea* (A. Gray) Cronquist (8) C; 8020–10020'; ccb, rcf, rsl, sfs, wmm

Agoseris glauca (Pursh) Raf. var. *dasycephala* (Torr. & A. Gray) Jeps. (32) A, C; 7880–11090'; asf, dam, dmm, mwa, rcf, rsl, sbs, sfs, wmm

Agoseris glauca (Pursh) Raf. var. *glauca* (21) A, C; 7640–9910'; asf, ccb, dmm, fen, rcf, rsl, wmm

Agoseris parviflora (Nutt.) D. Dietr. (18) A, C; 7700–9990'; dlw, dmm, nmp, ppw, rcf, rsl, sbs, wmm

Almutaster pauciflorus (Nutt.) Á. Löve & D. Löve (1) A; 8930–9030'; wmm

♦ *Amauriopsis dissecta* (A. Gray) Rydb.; R.D. Dorn 5302; A; 8600'; dmm

Anaphalis margaritacea (L.) Benth. & Hook. (25) A, C; 8070–9990'; asf, dmm, fen, pnd, lpf, rcf, rds, sfs, wmm

Antennaria anaphaloides Rydb. (11) A, C; 7620–10280'; asf, dlw, dmm, fen, sbs, sfs

Antennaria corymbosa E. E. Nelson (27) A, C; 8220–10240'; dam, dmm, fen, pnd, rcf, rsl, sfs, wmm

Antennaria howellii Greene ssp. *howellii* (1) C; 9220'

Antennaria howellii Greene ssp. *petaloidea* (Fernald) R.J. Bayer (2) A, C; 7630–8970'; ccb, rsl

Antennaria luzuloides Torr. & A. Gray (1) A; 9250–9580'; fen

Antennaria media Greene (15) A, C; 7700–11750'; dam, dmm, lpf, mwa, rds, sbs, sfs, wmm

Antennaria microphylla Rydb. (22) A, C; 7700–10830'; asf, ccb, dam, dmm, fen, lpf, nmp, rcf, rsl, sbs, wmm

Antennaria parvifolia Nutt. (32) A, C; 7460–10710'; asf, dmm, lpf, ppw, rsl, pnd, rcf, rds, sbs, sfs, wmm

Antennaria pulcherrima (Hook.) Greene (1) A; 9130–9150'; rsl

Antennaria rosea Greene ssp. *arida* (E. Nelson) R.J. Bayer (72) A, C; 7460–11090'; asf, ccb, dam, dlw, dmm, fen, lpf, mwa, nmp, rcf, rsl, sbs, sfs, wmm

Antennaria umbrinella Rydb. (42) A, C; 7460–11090'; ccb, dam, dlw, dmm, lpf, ppw, rsl, sbs, wmm

* *Anthemis tinctoria* L.; R.D. Dorn 3179; A; 8900'; rds

Arnica chamissonis Less. (14) A, C; 7630–9480'; dmm, lpf, rcf, rsl, wmm

Arnica cordifolia Hook. (61) A, C; 7460–11090'; asf, ccb, dam, dlw, dmm, fen, lpf, rcf, rsl, sbs, sfs, wmm

Arnica fulgens Pursh (1) C; 7880'; sbs

Arnica latifolia Bong. (14) A, C; 8140–10970'; asf, dmm, mwa, rcf, sfs, wmm

Arnica mollis Hook. (48) A, C; 8030–11090'; dam, dmm, fen, lpf, mwa, pnd, rcf, rsl, sfs, wmm

Arnica parryi A. Gray (23) A, C; 7890–10970'; asf, ccb, dam, dmm, lpf, rcf, rsl, sfs, wmm

Arnica rydbergii Greene (5) A, C; 8210–10970'; dam, dmm, rcf, rsl, sfs

Artemisia biennis Willd. var. *biennis*; C.L. Porter 10120; A; 8400'; rds/sbs

Artemisia campestris L. var. *pacifica* (Nutt.) M. Peck; Nelson 18346; C; 8450'; sandy flat

Artemisia cana Pursh var. *cana* (1) A; 8020'; rds

Artemisia cana Pursh var. *viscidula* Osterh. (2) A, C; 8560–9030'; sbs, wmm

Artemisia dracunculus L. (1) A; 8020'; rds

Artemisia frigida Willd. (9) A, C; 7380–9370'; nmp, sbs

Artemisia ludoviciana Nutt. var. *ludoviciana* (4) A, C; 8020–8970'; asf, rcf, rds, sbs

Artemisia nova A. Nelson (2) A; 8,000–8240'; sbs

Artemisia scopulorum A. Gray (12) A, C; 10240–11750'; dam, dmm, mwa, wmm

Artemisia tridentata Nutt. var. *vaseyana* (Rydb.) B. Boivin (5) A, C; 8020–8560'; rds, sbs

Artemisia tripartita Rydb. var. *rupicola* (Beetle) Dorn; Nelson 13273; A; 8800'; dmm

Balsamorhiza sagittata (Pursh) Nutt. (12) A, C; 7700–9450'; dlw, dmm, nmp, rds, sbs

Brickellia grandiflora (Hook.) Nutt.; A. Nelson 8766; A; 8100'; rsl, rocky areas

* • *Carduus nutans* L. (6) A, C; 7510–8970'; ccb, dmm, sbs

- **Centaurea stoebe* L. ssp. *micranthos* (S.G. Gmelin ex Gugler) Hayek (1) C; 8560'; sbs
- Chaenactis douglasii* (Hook.) Hook. & Arn. var. *douglasii* (6) A, C; 7510–8520'; rsl, sbs
- Chrysothamnus vaseyi* (A. Gray) Greene (2) A; 7440–8070'; sbs
- Chrysothamnus viscidiflorus* (Hook.) Nutt. var. *lanceolatus* (Nutt.) Greene (6) A, C; 7640–9050'; dmm, rds, sbs
- Chrysothamnus viscidiflorus* (Hook.) Nutt. var. *viscidiflorus* (1) C; 8288'; sagebrush hills
- *● *Cirsium arvense* (L.) Scop. (3) A, C; 7640–9430'; ccb, rcf
- Cirsium canescens* Nutt. (1) A; 8000–8100'; dlw
- Cirsium clavatum* (M.E. Jones) Petr. var. *americanum* (A. Gray) D.J. Keil (34) A, C; 7460–9910'; asf, dmm, fen, lpf, rcf, rds, sbs, sfs, wmm
- Cirsium flodmanii* (Rydb.) Arthur (1) A; 7640–8220'; sbs
- Cirsium pulcherrimum* (Rydb.) K. Schum. var. *pulcherrimum* (3) A, C; 7900–9500'; dmm, rsl, sbs
- Cirsium scariosum* Nutt. var. *americanum* (A. Gray) D.J. Keil (1) C; 8020–8030'; rcf
- Cirsium scariosum* Nutt. var. *coloradense* (Rydb.) D.J. Keil (12) A, C; 7380–9580'; dmm, nmp, rsl, sfs, wmm
- Cirsium scariosum* Nutt. var. *scariosum* (1) A; 7640–8220'; sbs
- Crepis acuminata* Nutt. (18) A, C; 7460–9450'; asf, dmm, nmp, rds, sbs
- Crepis atribarba* A. Heller (8) A, C; 7620–9220'; ccb, dlw, dmm, lpf, sbs
- Crepis modocensis* Greene var. *modocensis* (6) A, C; 7460–8680'; nmp, sbs
- Crepis occidentalis* Nutt. var. *occidentalis*; C.S. Gilbert s.n.; A; 9100'
- Crepis runcinata* (E. James) Torr. & A. Gray var. *runcinata* (1) C; 8770'; wmm
- Cyclachaena xanthifolia* (Nutt.) Fresen.; O. Asplund 72–48; C; 8900'; rds
- Dieteria canescens* (Pursh) Nutt. var. *canescens* (7) A, C; 7380–8750'; ccb, nmp, sbs
- Dieteria canescens* (Pursh) Nutt. var. *glabra* (A. Gray) D. R. Morgan & R. L. Hartm. (2) C; 8140–8750'; sbs
- Ericameria nauseosa* (Pall. ex Pursh) G.L. Nesom & G.I. Baird var. *graveolens* (Nutt.) Reveal & Schuyler; Nelson 1164; C; 7500'; thick sagebrush
- Ericameria nauseosa* (Pall. ex Pursh) G.L. Nesom & G.I. Baird var. *nauseosa* (5) A, C; 7380–8520'; nmp, sbs
- Ericameria nauseosa* (Pall. ex Pursh) G.L. Nesom & G.I. Baird var. *oreophila* (A. Nelson) G.L. Nesom & G.I. Baird (2) A, C; 7440–8560'; sbs
- Ericameria parryi* (A. Gray) G.L. Nesom & G.I. Baird var. *howardii* (Parry ex A. Gray) G.L. Nesom & G.I. Baird (2) A; 8020–9070'; rds, sbs
- Ericameria parryi* (A. Gray) G.L. Nesom & G.I. Baird var. *parryi* (4) A, C; 7640–8980'; lpf, sbs
- Erigeron acris* L. var. *kamtschaticus* (DC.) Herder (1) C; 10970'; dmm
- Erigeron caespitosus* Nutt. (16) A, C; 7620–10280'; asf, ccb, dlw, dmm, lpf, rcf, sbs, sfs
- Erigeron canus* A. Gray (2) A; 8100–8200'; nmp, sbs
- Erigeron compositus* Pursh (19) A, C; 7700–10710'; dlw, dmm, nmp, ppw, sbs, sfs, wmm
- Erigeron corymbosus* Nutt. (2) C; 7460'; sbs
- Erigeron eatonii* A. Gray var. *eatonii* (25) A, C; 7460–9840'; asf, ccb, dlw, dmm, nmp, rsl, sbs, sfs, wmm
- ♦ *Erigeron elatior* (A. Gray) Greene (3) C; 8370–8640'; rcf, wmm
- Erigeron engelmannii* A. Nelson var. *engelmannii* (2) C; 7730'; sbs
- Erigeron eximius* Greene (3) A, C; 8070–9220'; asf, rcf
- Erigeron flagellaris* A. Gray (1) C; 8370'; wmm
- Erigeron formosissimus* Greene var. *formosissimus* (4) A, C; 8030–8920'; dmm, rcf, rsl, wmm
- Erigeron formosissimus* Greene var. *viscidus* (Rydb.) Cronquist (8) A, C; 7460–9580'; dmm, lpf, sbs, sfs, wmm
- Erigeron glabellus* Nutt. var. *glabellus* (3) A, C; 7460–7630'; rsl, sbs
- Erigeron glacialis* (Nutt.) A. Nelson var. *glacialis* (61) A, C; 7890–11750'; fen, lpf, mwa, pnd, rcf, rsl, sfs, wmm
- Erigeron grandiflorus* Hook. (13) A, C; 10590–11750'; dam, dmm, mwa, wmm
- Erigeron lonchophyllus* Hook. (1) A; 8930–9030'; wmm
- Erigeron melanocephalus* (A. Nelson) A. Nelson (15) A, C; 9590–11750'; dam, dmm, mwa, pnd, sfs, wmm
- Erigeron nematophyllus* Rydb. (10) A, C; 7700–9220'; dlw, sbs
- Erigeron nivalis* Nutt. (2) A; 8740–8890'; lpf, rcf
- Erigeron ochroleucus* Nutt. (1) A; 8080–8140'; sbs
- ♦ *Erigeron pinnatisectus* (A. Gray) A. Nelson (7) A, C; 10730–11750'; dam
- Erigeron pulcherrimus* A. Heller (1) C; 7730'; sbs
- Erigeron pumilus* Nutt. var. *pumilus* (3) A, C; 7880–9250'; ppw, sbs
- Erigeron speciosus* (Lindl.) DC. (2) C; 7890–8560'; rcf, sbs
- Erigeron subtrinervis* Rydb. ex Porter & Britton (18) A, C; 7440–8820'; asf, dlw, dmm, lpf, ppw, rcf, rds
- Erigeron uintahensis* Cronquist (2) C; 7510–8750'; rsl, sbs
- Erigeron ursinus* D.C. Eaton (13) A, C; 8710–10830'; dam, dmm, mwa, sbs, sfs, wmm
- Erigeron vetensis* Rydb. (2) A; 8090–9330'; dlw, nmp, ppw
- Eucephalus engelmannii* (D.C. Eaton) Greene (7) C; 8560–9710'; asf, rcf, wmm
- Gaillardia aristata* Pursh (4) C; 7890–8750'; dmm, rds, sbs
- Gnaphalium exilifolium* A. Nelson (1) C; 8210'; rcf
- Gnaphalium palustre* Nutt.; Hartman 4927; A; 8300'; rds
- Gnaphalium uliginosum* L.; G. Ownbey 614; A; 8700'; rsl
- Grindelia hirsutula* Hook. & Arn. (1) C; 8560'; sbs
- Grindelia squarrosa* (Pursh) Dunal (1) A; 7640–8220'; ccb
- Grindelia subalpina* Greene (2) A, C; 7440–9300'; ccb, sbs
- Gutierrezia sarothrae* (Pursh) Britton & Rusby (4) A; 7380–8070'; nmp, rds, sbs
- Helianthella quinquenervis* (Hook.) A. Gray (10) A, C; 8080–9760'; asf, dmm, lpf, rcf, wmm
- Helianthella uniflora* (Nutt.) Torr. & A. Gray (9) A, C; 7510–9220'; asf, dlw, dmm, rcf, rsl, sbs, wmm
- Helianthus annuus* L.; Nelson 1914; A; 8000'; rds
- Helianthus petiolaris* Nutt. var. *petiolaris*; R. Newton 2563; A; 7446'; dry rocky uplands
- Helianthus pumilus* Nutt. (1) A; 8100–8200'; sbs
- Heliomeris multiflora* Nutt. var. *multiflora* (4) C; 8070–8820'; dmm, sbs
- Herrickia glauca* (Nutt.) Brouillet var. *glauca* (6) A, C; 8070–9020'; asf, ccb, lpf, rcf, sfs
- Heterotheca fulcrata* (Greene) Shinnars (4) A; 8270–9400'; dmm, rcf
- Heterotheca horrida* (Rydb.) V. L. Harms (3) A, C; 7460–8100'; dlw, sbs
- ♦ *Heterotheca pumila* (Greene) Semple; Hartman 19822; C; 10400–10800'; dam
- Heterotheca villosa* (Pursh) Shinnars var. *villosa* (19) A, C; 7510–9370'; asf, dmm, lpf, nmp, rds, sbs
- Hieracium albiflorum* Hook. (37) A, C; 8030–9930'; asf, ccb, dlw, dmm, lpf, rcf, rsl, sfs, wmm
- Hieracium triste* Willd. ex Spreng. (34) A, C; 8760–11750'; ccb, dam, dmm, fen, lpf, pnd, rcf, rds, rsl, sfs, wmm
- Hymenoxys grandiflora* (Torr. & A. Gray ex A. Gray) K.L. Parker (5) A; 10620–11580'; dam, mwa, wmm
- *● *Leucanthemum vulgare* Lam. (5) A, C; 8030–9430'; dmm, rds, wmm
- Liatris punctata* Hook. var. *punctata*; A. Nelson 7952; A; dry bench lands
- Lygodesmia juncea* (Pursh) D. Don ex Hook.; N. Snow 4580; A; 7500'; rds
- Madia glomerata* Hook. (7) A, C; 8030–9030'; ccb, dmm, rds, sbs, wmm
- Matricaria discoidea* DC. (6) A, C; 7860–9300'; ccb, dmm, rds
- Microseris nutans* (Hook.) Sch. Bip. (7) A, C; 7880–8910'; lpf, rsl, sbs
- Mulgedium pulchellum* (Pursh) G. Don; Nelson 13396; A; 8100'; rds

- Oreochrysum parryi* (A. Gray) Rydb. (15) A, C; 8070–10970'; ccb, dmm, lpf, rcf, wmm
- Packera cana* (Hook.) W. A. Weber & Á. Löve (18) A, C; 7510–10590'; dlw, dmm, lpf, nmp, ppw, rds, sbs
- ◆ *Packera crocata* (Rydb.) W. A. Weber & Á. Löve; *J. Haines* 9430; A; 10520'; mwa
- Packera debilis* (Nutt.) W. A. Weber & Á. Löve; *A. Nelson* 1492; A; 7580'
- Packera dimorphophylla* (Greene) W. A. Weber & Á. Löve var. *dimorphophylla* (32) A, C; 8890–11750'; dam, dmm, fen, lpf, mwa, rsl, wmm
- Packera fendleri* (A. Gray) W. A. Weber & Á. Löve (32) A, C; 7460–11750'; ccb, dam, dlw, dmm, lpf, nmp, ppw, rsl, sbs
- Packera paupercula* (Michx.) Á. Löve & D. Löve (1) A; 8260–8600'; lpf
- × *Packera paupercula* (Michx.) Á. Löve & D. Löve. × *Packera dimorphophylla* (Greene) W. A. Weber & Á. Löve var. *dimorphophylla* (1) C; 8820–8830'; pnd
- ◆ *Packera pseud aurea* (Rydb.) W. A. Weber & Á. Löve var. *flavula* (Greene) D. K. Trock & T. M. Barkley (1) A; 7630'; rsl
- Packera streptanthifolia* (Greene) W. A. Weber & Á. Löve (5) A, C; 7460–10710'; dmm, pnd, sbs, wmm
- Packera tridenticulata* (Rydb.) W. A. Weber & Á. Löve (1) C; 8080–8200'; lpf
- Packera wernerifolia* (A. Gray) W. A. Weber & Á. Löve (4) A; 8220–8950'; dmm, lpf, sbs
- Petasites sagittatus* (Banks ex Pursh) A. Gray (5) A; 8930–10490'; dmm, fen, rsl, wmm
- Pseudognaphalium viscosum* (Kunth) W. A. Weber; *E. Nelson* 5270; A; 8200–9000'
- ◆ *Pyrocoma crocea* (A. Gray) Greene var. *crocea* (3) C; 8820–9150'; dmm, lpf
- Pyrocoma lanceolata* (Hook.) Greene var. *lanceolata*; *H. Hughes* H-36; C; 9000'; dmm
- Pyrocoma uniflora* (Hook.) Greene var. *uniflora* (1) C; 8910'; dmm
- Rudbeckia hirta* L. var. *pulcherrima* Farw. (1) A; 7630'; rsl
- Rudbeckia laciniata* L. var. *ampla* (A. Nelson) Cronquist (1) A; 7440'; asf
- ◆ *Senecio bigelovii* A. Gray var. *hallii* A. Gray (6) A, C; 8270–8990'; asf, dmm, rcf, rsl, wmm
- Senecio crassulus* A. Gray (18) A, C; 9220–11580'; dam, dmm, wmm
- Senecio eremophilus* Richardson var. *eremophilus* (1) C; 7620'; dlw
- Senecio eremophilus* Richardson var. *kingii* (Rydb.) Greenm. (20) A, C; 8030–9710'; asf, ccb, dlw, dmm, lpf, rcf, sbs, sfs
- Senecio fremontii* Torr. & A. Gray var. *blitoides* (Greene) Cronquist (1) A; 11000–11270'; dam
- Senecio hydrophilus* Nutt. (1) A; 8930–9030'; wmm
- Senecio integerrimus* Nutt. var. *exaltatus* (Nutt.) Cronquist (34) A, C; 7700–10710'; asf, dmm, fen, lpf, nmp, ppw, rsl, sbs, sfs, wmm
- Senecio integerrimus* Nutt. var. *integerrimus* (2) C; 7460–8030'; rsl, sbs
- Senecio rapifolius* Nutt.; *Nelson* 13473; C; 8300'; rock outcrop
- Senecio riddellii* Torr. & A. Gray; *N. Snow* 4579; A; 7500'; rds
- Senecio serra* Hook. var. *admirabilis* (Greene) A. Nelson (1) C; 8710'; rcf
- Senecio spartioides* Torr. & A. Gray; *Nelson* 13398; A; 8100'; rds
- Senecio triangularis* Hook. (48) A, C; 8030–10970'; fen, pnd, rcf, rsl, sfs, wmm
- Solidago altissima* L. var. *gilvocanescens* (Rydb.) Semple (1) C; 7510'; sbs
- Solidago gigantea* Aiton; *R. Newton* 2546; A; 7360'; rsl
- Solidago lepida* DC. var. *salebrosa* (Piper) Semple (4) A, C; 7460–8570'; rcf, sfs, wmm
- Solidago missouriensis* Nutt. (2) A; 8070–8280'; sbs
- Solidago mollis* Bartl. (3) A, C; 7440–9070'; sbs
- Solidago multiradiata* Aiton (23) A, C; 7640–11580'; ccb, dam, dmm, lpf, mwa, rcf, rsl, sbs, wmm
- Solidago nana* Nutt.; *R.J. Hill* 1232; A; 9400'; rcf
- Solidago simplex* Kunth var. *simplex* (27) A, C; 7640–11750'; asf, ccb, dam, dmm, lpf, rcf, rds, rsl, sfs, wmm
- Solidago velutina* DC. ssp. *sparsiflora* (A. Gray) Semple; *L. Goodding* 2097; A; sbs
- * ● *Sonchus arvensis* L. ssp. *uliginosus* (M. Bieb.) Nyman; *Nelson* 1137; C; 8400'; rds
- Stenotus acaulis* (Nutt.) Nutt. (2) C; 7700–8020'; sbs
- Stenotus armerioides* Nutt. var. *armerioides*; *Nelson* 494; A; 7800'; with *Cercocarpus*
- Stephanomeria runcinata* Nutt. (1) A; 8070'; sbs
- Stephanomeria tenuifolia* (Raf.) H. M. Hall (1) A; 7440'; sbs
- Symphyotrichum ascendens* (Lindl.) G.L. Nesom (13) A, C; 8020–9580'; asf, dmm, lpf, rcf, rds, sbs, sfs, wmm
- Symphyotrichum campestre* (Nutt.) G.L. Nesom; *Nelson* 13490; C; 8250'; dmm
- Symphyotrichum eatonii* (A. Gray) G.L. Nesom (2) A, C; 7510–8220'; ccb, sbs
- Symphyotrichum ericoides* (L.) G.L. Nesom var. *stricticaule* (Torr. & A. Gray) G.L. Nesom (1) C; 8210'; rsl
- Symphyotrichum falcatum* (Lindl.) G.L. Nesom var. *commutatum* (Torr. & A. Gray) G.L. Nesom (2) A; 7380–7400'; nmp
- Symphyotrichum foliaceum* (DC.) G.L. Nesom var. *apricum* (A. Gray) G.L. Nesom (13) A, C; 8070–11750'; ccb, dam, dmm, rcf, sfs, wmm
- Symphyotrichum foliaceum* (DC.) G.L. Nesom var. *canbyi* (A. Gray) G.L. Nesom (6) A, C; 8710–9580'; dmm, rcf, rsl, wmm
- Symphyotrichum foliaceum* (DC.) G.L. Nesom var. *parryi* (D.C. Eaton) G.L. Nesom (13) A, C; 7460–10240'; ccb, dam, dmm, rcf, rsl, sfs, wmm
- Symphyotrichum lanceolatum* (Willd.) G.L. Nesom var. *hesperium* (A. Gray) G.L. Nesom (1) A; 9130'; dmm
- Symphyotrichum spathulatum* (Lindl.) G.L. Nesom var. *spathulatum* (5) A, C; 8270–9890'; dmm, rcf, wmm
- Taraxacum ceratophorum* (Ledeb.) DC.; *J. Haines* 9786; A; 10485'; wmm
- * *Taraxacum erythrospermum* Andr. ex Besser (12) A, C; 7460–10620'; asf, dlw, lpf, rcf, rds, sbs, sfs, wmm
- * *Taraxacum officinale* Weber ex F. H. Wigg. (26) A, C; 7700–10500'; asf, dmm, fen, lpf, rcf, rds, rsl, sbs, sfs, wmm
- Taraxacum scopulorum* (A. Gray) Rydb.; *V.J. Wetherell* 362; A; 12000'
- Tetradymia canescens* DC.; *Hartman* 4936; A; 8300'; sbs
- Tetraneuris acaulis* (Pursh) Greene var. *acaulis* (1) C; 8140–8750'; dmm
- Tetraneuris acaulis* (Pursh) Greene var. *caespitosa* A. Nelson (4) A, C; 7880–9250'; dlw, ppw, sbs
- Townsendia hookeri* Beaman; *Nelson* 5092; A; 9100'; gravelly slope
- ◆ *Tonestus pygmaeus* (Torr. & A. Gray) A. Nelson (3) A, C; 11180–11750'; dam
- * *Tragopogon dubius* Scop. (23) A, C; 7460–8970'; asf, ccb, dmm, rds, rsl, sbs, sfs, wmm
- * *Tragopogon pratensis* L. (2) C; 8020–8030'; dmm, rsl
- * *Tripleurospermum maritimum* (L.) W.D.J. Koch ssp. *maritimum* (1) A; 7440'; sbs
- Wyethia amplexicaulis* (Nutt.) Nutt. (1) C; 8560'; wmm
- × *Xanthisma coloradoense* (A. Gray) D. R. Morgan & R. L. Hartm. × *X. grindelioides* (Nutt.) D. R. Morgan & R. L. Hartm.; *W. Fertig* 16724; A; 7800'; shaley gypsum
- Xanthisma grindelioides* (Nutt.) D. R. Morgan & R. L. Hartm. var. *grindelioides*; *W.E. Myers* 251; A; 7800–8600'
- Xylorhiza glabriuscula* Nutt.; *J.F. Brenckle* 43-052; A; 8200'

Berberidaceae

- Berberis repens* Lindl. (42) A, C; 7460–10280'; asf, ccb, dlw, dmm, lpf, ppw, rcf, rds, sbs, sfs, wmm

Betulaceae

- Alnus incana* (L.) Moench var. *occidentalis* (Dippel) C. L. Hitchc. (32) A, C; 7460–9450'; asf, rcf, rsl, sbs, sfs, wmm
Betula glandulosa Michx. (17) A, C; 8020–9730'; fen, rcf, rsl, wmm
Betula occidentalis Hook.; Hartman 24337; A; 8400–9000'; rsl

Boraginaceae

- Cryptantha ambigua* (A. Gray) Greene; Nelson 3004; A; 8800'; asf
Cryptantha celosioides (Eastw.) Payson (1) A; 8070'; sbs
Cryptantha fendleri (A. Gray) Greene; A. Nelson 8065; A; 7600'; gravelly slopes
Cryptantha flavoculata (A. Nelson) Payson (1) C; 7880'; sbs
Cryptantha kelseyana Greene; W. Fertig 14304; C; 8300–8400'; rds
Cryptantha thyriflora (Greene) Payson (2) A; 8100–8140'; nmp, sbs
Cryptantha virgata (Porter) Payson (10) A, C; 7460–8680'; dlw, dmm, nmp, sbs
Cryptantha watsonii (A. Gray) Greene (1) C; 7620'; dlw
 * *Cynoglossum officinale* L. (1) A; 8510–8530'; rds
Eritrichum nanum (Vill.) Schrad. ex Gaudin var. *elongatum* (Rydb.) Cronquist (2) A; 10710–11040'; dam, dmm
Hackelia floribunda (Lehm.) I. M. Johnst (3) C; 7460–8210'; rcf, sbs
Hydrophyllum capitatum Douglas ex Benth. var. *capitatum* (5) C; 7880–8820'; asf, sbs, wmm
Hydrophyllum fendleri (A. Gray) A. Heller var. *fendleri* (1) C; 7890'; asf
Lappula occidentalis (S. Watson) Greene var. *occidentalis* (2) A, C; 7460–8070'; sbs
 * *Lappula squarrosa* (Retz.) Dumort. (2) A, C; 7640–8220'; ccb, rds
Lithospermum incisum Lehm. (6) A, C; 7740–8480'; nmp, ppw, sbs
Lithospermum ruderales Douglas ex Lehm. (7) A, C; 7700–8750'; dlw, sbs
Mertensia alpina (Torr.) G. Don (1) C; 8480'; dlw
Mertensia ciliata (E. James ex Torr.) G. Don var. *ciliata* (57) A, C; 7460–11090'; asf, ccb, fen, mwa, pnd, rcf, rsl, sfs, wmm
Mertensia humilis Rydb. (8) A; 7860–11180'; asf, dam, dlw, lpf, nmp, sbs, wmm
Mertensia lanceolata (Pursh) A. DC.; A.L. Ward 1; C; 7420'; dmm
Mertensia oblongifolia (Nutt.) G. Don (2) C; 10590–11750'; dam, dmm
Mertensia viridis (A. Nelson) A. Nelson (11) A, C; 10590–11580'; dam, mwa, sfs, wmm
Nemophila breviflora A. Gray (3) C; 7890–8300'; rcf, sbs
 ♦ *Phacelia alba* Rydb.; B. Hammel 527; A; 8100'; rds
 ♦ *Phacelia denticulata* Osterh.; N.D. Atwood 1973; A; 8200'
Phacelia hastata Douglas ex Lehm. var. *hastata* (6) A, C; 7460–8680'; dmm, rsl, sbs
Phacelia sericea (Graham ex Hook.) A. Gray var. *ciliosa* Rydb. (1) C; 7730'; sbs
Phacelia sericea (Graham ex Hook.) A. Gray var. *sericea* (12) A, C; 7880–10280'; asf, dmm, lpf, rds, rsl, sbs
Plagiobothrys scouleri (Hook. & Arn.) I. M. Johnst. var. *hispidulus* (Greene) Dorn (3) A, C; 8890–9120'; lpf, wmm

Brassicaceae

- * *Alyssum desertorum* Stapf (8) A, C; 7460–8630'; asf, dmm, rcf, sbs
 * *Alyssum simplex* Rudolphi (1) A; 8140'; sbs
Arabis hirsuta (L.) Scop. var. *glabrata* Torr. & A. Gray; Hartman 4934; A; 8300'; sbs
Arabis nuttallii B. L. Rob. (2) A; 8080–8140'; sbs
Barbarea orthoceras Ledeb. (2) A, C; 7460–8220'; sfs, wmm
 * *Barbarea vulgaris* R. Br. (1) C; 8030'; wmm
Boechera collinsii (Fernald) Á. Löve & D. Löve (5) A, C; 7880–9400'; dmm, lpf, sbs
Boechera grahamii (Lehm.) Windham & Al-Shehbaz (4) A; 8070–9450'; dlw, dmm, sbs
Boechera holboellii (Hornem.) Á. Löve & D. Löve var. *secunda* (Howell) Dorn (6) A, C; 7860–9450'; ccb, dmm, nmp, sbs

- Boechera lignifera* (A. Nelson) W. A. Weber (4) A, C; 8020–8480'; dlw, rsl, sbs
Boechera microphylla (Nutt.) Dorn; Nelson 13456; C; 7700'; rock outcrop
Boechera pendulocarpa (A. Nelson) Windham & Al-Shehbaz (12) A, C; 7700–9330'; dlw, dmm, nmp, sbs
Boechera pinetorum (Tidestr.) Windham & Al-Shehbaz (2) A; 8070–8140'; sbs
Boechera spatifolia (Rydb.) Windham & Al-Shehbaz (6) A, C; 7460–9250'; dlw, lpf, ppw, sbs
Boechera stricta (Graham) Al-Shehbaz (60) A, C; 7620–10830'; asf, ccb, dam, dlw, dmm, lpf, rcf, rds, rsl, sbs, sfs, wmm
 * *Camelina microcarpa* Andr. ex DC. (1) C; 7510'; sbs
 * *Capsella bursa-pastoris* (L.) Medik. (3) A, C; 7730–7890'; asf, rds, wmm
Cardamine breweri S. Watson (11) A, C; 7460–9580'; ccb, rcf, rsl, sfs, wmm
Cardamine cordifolia A. Gray var. *cordifolia* (5) A, C; 8230–9930'; rcf, wmm
Cardamine oligosperma Nutt. var. *oligosperma* (5) A, C; 7730–9590'; asf, rcf, wmm
 * *Cardaria chalepensis* (L.) Hand.-Mazz. (1) C; 7510'; sbs
 * *Cardaria draba* (L.) Desv. (1) C; 8300'; rds
Descurainia incana (Bernh. ex Fisch. & C. A. Mey.) Dorn (6) A, C; 7640–8700'; asf, ccb, dmm, sbs
Descurainia incisa (Engelm.) Britton var. *incisa* (1) A; 8220'; sbs
Descurainia longepedicellata (E. Fourn.) O.E. Schulz; K.K. Hughes 394; A; 7560–7760'; sbs
Descurainia nelsonii (Rydb.) Al-Shehbaz & Goodson; A. Nelson 2609; A; 8800'
Descurainia pinnata (Walter) Britton var. *osmiarum* (Cockerell) Shinnars (1) A; 8070'; sbs
 * *Descurainia sophia* (L.) Webb ex Prantl (5) A, C; 7460–9050'; dmm, rcf, sbs
Draba albertina Greene (18) A, C; 7700–10590'; asf, dlw, dmm, rcf, rsl, sbs, sfs, wmm
Draba aurea Vahl ex Hornem. (9) A, C; 8220–11750'; dam, dmm, sfs, wmm
Draba cana Rydb. (1) A; 11040'; dam
Draba crassifolia Graham var. *crassifolia* (11) A, C; 9840–11750'; dam, dmm, rcf, wmm
 ♦ *Draba globosus* Payson; R.D. Dorn 4283; A; 10800'; dam
Draba lonchocarpa Rydb. var. *lonchocarpa* (1) A; 11040'; dam
Draba nemorosa L. (5) A, C; 7730–8680'; dlw, sbs, wmm
Draba oligosperma Hook. var. *oligosperma* (3) A, C; 7880–10280'; dlw, dmm, sbs
Draba streptocarpa A. Gray; B. Heide 2325; A; 9420'; rcf
 * *Erucastrum gallicum* (Willd.) O.E. Schulz; R. Newton 2540; A; 7360'; rsl
Erysimum capitatum (Douglas ex Hook.) Greene var. *purshii* (T. Durand) Rollins (16) A, C; 7620–11480'; dam, dmm, nmp, ppw, sbs
 * *Erysimum cheiranthoides* L. ssp. *altum* Ahti (1) C; 8210'; rsl
Halimolobos virgata (Nutt.) O.E. Schulz (1) A; 8090–9330'; dlw
Lepidium densiflorum Schrad. var. *macrocarpum* G. A. Mulligan (1) A; 7380–7400'; nmp
Lepidium ramosissimum A. Nelson var. *ramosissimum*; A. Nelson 8782; A; 8100'; bottom lands
Noccaea fendleri (A. Gray) Holub ssp. *glauca* (A. Nelson) Al-Shehbaz & M. Koch (42) A, C; 7460–11180'; asf, dam, dmm, lpf, mwa, rcf, rsl, sbs, sfs, wmm
Physaria acutifolia Rydb. var. *acutifolia*; (3) C; 7520–7950'; nmp, sbs
Physaria arenosa (Richardson) O'Kane & Al-Shehbaz var. *arenosa* (1) A; 8630'; dmm
Physaria ludoviciana (Nutt.) O'Kane & Al-Shehbaz (1) A; 7900'; sbs
Physaria montana (A. Gray) Greene (16) A, C; 7460–9330'; ccb, dlw, dmm, nmp, ppw, sbs

- Rorippa alpina* (S. Watson) Rydb. (3) A, C; 8760–10540'; mwa, pnd, wmm
Rorippa curvipes Greene var. *curvipes* (5) A, C; 7460–9510'; rcf, sfs, wmm
Rorippa curvipes Greene var. *integra* (Rydb.) Stuckey (2) C; 9020–9990'; pnd, rds
Rorippa palustris (L.) Besser var. *fernaldiana* (Butters & Abbe) Stuckey (1) C; 8610–8640'; rcf
Rorippa sphaerocarpa (A. Gray) Britton (1) C; 8610–8640'; wmm
 * *Sisymbrium altissimum* L. (1) C; 7510'; sbs
Thelypodium integrifolium (Nutt.) Endl. ex Walp. var. *integrifolium* (1) A; 7380–7400'; nmp
 * *Thlaspi arvense* L. (5) A, C; 7700–9450'; asf, dmm, rcf, sbs
Turritis glabra L. (6) A, C; 7510–9910'; dmm, rsl, sbs, sfs

Cactaceae

- Coryphantha vivipara* (Nutt.) Britton & Rose (2) A; 8070–8140'; sbs, nmp,
Opuntia polyacantha Haw. var. *polyacantha* (3) A, C; 7440–8100'; sbs
Pediocactus simpsonii (Engelm.) Britton & Rose (1) A; 9330'; ppw

Campanulaceae

- Campanula parryi* A. Gray (5) A, C; 7510–8280'; asf, rcf, rsl, sbs, wmm
Campanula rotundifolia L. (47) A, C; 7460–11750'; asf, ccb, dam, dlw, dmm, lpf, rcf, rds, rsl, sbs, sfs, wmm
Campanula uniflora L. (2) A; 11010–11580'; dam

Cannabaceae

- Humulus lupulus* L. var. *neomexicanus* A. Nelson & Cockerell; Nelson 1915; A; 7600'; rds

Caprifoliaceae

- Linnaea borealis* L. var. *longiflora* Torr. (7) A, C; 8070–8920'; lpf, rcf
Lonicera involucrata (Richardson) Banks ex Spreng. var. *involucrata* (39) A, C; 7460–9810'; asf, fen, lpf, pnd, rcf, rsl, sfs, wmm
Symphoricarpos occidentalis Hook. (1) A; 7440'; asf
Symphoricarpos oreophilus A. Gray var. *utahensis* (Rydb.) A. Nelson (7) A, C; 7730–8750'; asf, dmm, sbs
Valeriana edulis Nutt. ex Torr. & A. Gray var. *edulis* (23) A, C; 7510–10620'; asf, dmm, fen, rcf, rsl, sbs, wmm
Valeriana occidentalis A. Heller (19) A, C; 7630–10280'; asf, dmm, rcf, rsl, sbs, sfs, wmm

Caryophyllaceae

- Cerastium arvense* L. var. *strictum* (Gaudin) W. D.J. Koch (28) A, C; 7880–11750'; dam, dlw, dmm, fen, lpf, rcf, rsl, sbs, wmm
 * *Cerastium fontanum* Baumg. ssp. *vulgare* (Hartm.) Greuter & Burdet (14) A, C; 7460–9580'; asf, dmm, rcf, sfs, wmm
 * *Cerastium tomentosum* L. (1) A; 8510–8530'; rds
 * *Dianthus armeria* L. ssp. *armeria*; R.L. Williams 606; C; 7400'; rds
 * *Dianthus barbatus* L. ssp. *barbatus*; L. Strack 136; A; 8200'; rsl
 * *Dianthus deltoides* L. ssp. *deltoides*; R.D. Dorn 4370; C; 8300'; rds
Eremogone congesta (Nutt.) Ikonn. var. *congesta* (54) A, C; 7460–11090'; asf, ccb, dam, dlw, dmm, lpf, nmp, rds, rsl, sbs, wmm
Eremogone fendleri (A. Gray) Ikonn. (8) A; 8070–10280'; dmm, lpf, nmp, rcf, sbs
Eremogone hookeri (Nutt.) W.A. Weber var. *hookeri* (2) A; 8070–8200'; sbs
Minuartia nuttallii (Pax) Briq. var. *nuttallii*; Hartman 2968; C; 8600'; in sand
Minuartia obtusiloba (Rydb.) House (19) A, C; 9890–11750'; dam, dmm, mwa, pnd, sfs, wmm
Minuartia rubella (Wahlenb.) Hiern (8) A, C; 10590–11750'; dam, dmm, wmm
Moehringia lateriflora (L.) Fenzl (8) A, C; 7460–8760'; fen, rcf, rsl, sbs, sfs, wmm
 ♦ *Paronychia pulvinata* A. Gray (2) A; 11270–11580'; dam

- Paronychia sessiliflora* Nutt. (3) A; 7380–8520'; nmp, sbs
Pseudostellaria jamesiana (Torr.) W. A. Weber & R. L. Hartm.; Nelson 453; C; 7800'; lpf
Sagina saginoides (L.) H. Karst (5) A, C; 8370–9580'; rcf, rsl
Silene acaulis (L.) Jacq. (10) A, C; 10620–11580'; dam, dmm, mwa, wmm
Silene drummondii Hook. var. *drummondii* (12) A, C; 7510–9400'; dmm, lpf, ppw, sbs
Silene drummondii Hook. var. *striata* (Rydb.) Bocquet (10) A, C; 7890–11580'; asf, dam, dmm, lpf, rcf, rds, rsl, sfs
 ♦ *Silene hitchguirei* Bocq.; Nelson 84837; A; 11600–11700'; dam
 * *Silene latifolia* Poir.; Hartman 3057; A; 9500'; rds
Silene menziesii Hook. (2) A, C; 7460–8220'; sbs, sfs
Silene parryi (S. Watson) C. L. Hitchc. & Maguire (1) C; 10970'; dmm
 * *Spergularia rubra* (L.) J. Presl & C. Presl (23) A, C; 7890–10590'; asf, ccb, dmm, fen, lpf, rds, sbs, sfs, wmm
Stellaria borealis Bigelow var. *borealis* (4) A, C; 8370–9590'; rsl, sfs, wmm
Stellaria calycantha (Ledeb.) Bong. (1) C; 9730'; fen
Stellaria longifolia Muhl. ex Willd. (5) A; 8220–9480'; dmm, rcf, wmm
Stellaria longipes Goldie var. *longipes* (24) A, C; 7700–11750'; asf, dam, dmm, mwa, pnd, rcf, rsl, sfs, wmm
Stellaria umbellata Turcz. (10) A, C; 8230–11270'; dam, dmm, pnd, wmm

Cleomaceae

- Peritoma serrulata* (Pursh) DC.; B. Hammel 725; A; 7500'; rds

Clusiaceae

- Hypericum scouleri* Hook. (1) A; 8070'; rcf

Colchicaceae

- Streptopus amplexifolius* (L.) DC. (22) A, C; 8030–9730'; asf, rcf, rsl, sfs, wmm

Cornaceae

- Cornus sericea* L. var. *sericea* (5) A, C; 7440–8570'; asf, rcf, sbs, sfs

Crassulaceae

- Sedum integrifolium* (Raf.) A. Nelson (1) A; 11040'; dam
Sedum lanceolatum Torr. (48) A, C; 7620–11750'; ccb, dam, dlw, dmm, lpf, mwa, nmp, rds, rsl, sbs, wmm
Sedum rhodanthum A. Gray (33) A, C; 8270–11750'; fen, mwa, pnd, rcf, rsl, wmm

Cyperaceae

- Carex albonigra* Mack. (3) C; 10730–11750'; dam, dmm
Carex aquatilis Wahlenb. var. *aquatilis* (42) A, C; 7460–10970'; asf, ccb, fen, pnd, rcf, rsl, sfs, wmm
 ! *Carex arcta* Boott (3) C; 9020–9120'; pnd, rcf
Carex atherodes Spreng.; T. Varcalli 91; C; 8800'; rsl
Carex athrostachya Olney (13) A, C; 7730–9150'; asf, dmm, rcf, rsl, wmm
Carex aurea Nutt. (19) A, C; 8030–10970'; asf, fen, pnd, rcf, rsl, wmm
Carex brunnescens (Pers.) Poir. var. *brunnescens* (1) C; 9020'; pnd
Carex canescens L. var. *canescens* (27) A, C; 8270–10500'; fen, pnd, rcf, rsl, sfs, wmm
Carex capillaris L. (3) A, C; 8710–9270'; fen, rcf, rsl
Carex chalciolepis T. Holm (5) A, C; 8760–11000'; dmm, rsl, wmm
 ♦ *Carex diandra* Schrank; C.L. Porter 9197; A; 8600'; fen
Carex disperma Dewey (24) A, C; 8300–9480'; asf, rcf, rsl, wmm
Carex duriuscula C. A. Mey. (2) A, C; 7880–8520'; nmp, sbs
Carex ebenea Rydb. (16) A, C; 8710–11580'; dam, dmm, lpf, mwa, pnd, rcf, rds, sfs, wmm
 ♦ *Carex egglestonii* Mack.; F.J. Hermann 17168; A; 9000'; dmm
Carex elynoides Holm (1) A; 11010–11580'; dam
Carex epapillosa Mack. (10) A, C; 9100–11090'; dmm, fen, mwa, rcf, rsl, wmm

- Carex filifolia* Nutt.; W. Fertig 12566; A; 7800–8000'; dmm
Carex foenea Willd. (25) A, C; 8000–11040'; dam, dlw, dmm, lpf, rcf, rsl, sfs, wmm
Carex geyeri Boott (52) A, C; 7460–10710'; asf, ccb, dlw, lpf, rcf, rsl, sbs, sfs
Carex gynocrates Wormsk. ex Drejer (3) A; 8140–9220'; fen, nmp, rsl
Carex haydeniana Olney (16) A, C; 7460–10970'; asf, ccb, dam, dmm, fen, rcf, rsl, sfs, wmm
Carex hoodii Boott (9) A, C; 7890–10590'; asf, dmm, sfs, wmm
Carex illota L. H. Bailey (25) A, C; 8750–11270'; asf, dmm, fen, pnd, rcf, sfs, wmm
Carex inops L. H. Bailey ssp. *heliophila* (Mack.) Crins (2) A; 8200–8530'; sbs
Carex interior L. H. Bailey (6) A, C; 8710–10710'; fen, pnd, wmm
Carex jonesii L. H. Bailey (21) A, C; 8030–9930'; fen, rcf, rsl, sfs, wmm
Carex lachenalii Schkuhr; B. Heidel 2435; C; 9600'; fen
Carex lanuginosa Michx. (3) C; 8020–8640'; rcf, sbs, wmm
Carex lasiocarpa Ehrh. (1) C; 8820–8830'; pnd
Carex lenticularis Michx. var. *pallida* (Boott) Dorn (4) A, C; 8270–9580'; fen, rcf, wmm
Carex leporinella Mack. (3) C; 9380–11090'; dam, wmm
♦ *Carex leptalea* Wahlenb. (1) A; 9270'; fen
♦ *Carex limosa* L. (1) C; 8820–8830'; pnd
Carex macloviana d'Urv. (18) A, C; 8070–11580'; dam, dmm, mwa, rcf, rsl, wmm
Carex microptera Mack. var. *limnophila* (F. J. Herm.) Dorn (4) A, C; 8370–9210'; dmm, rcf, wmm
Carex microptera Mack. var. *microptera* (12) A, C; 8750–11750'; asf, dam, dmm, fen, rcf, rsl, wmm
Carex nardina Fr.; E. Nelson 5346; A; 10600'
Carex nebrascensis Dewey (6) A, C; 7860–9130'; dmm, rcf, rds, wmm
♦ *Carex nelsonii* Mack. (1) C; 10830'; pnd
Carex neurophora Mack.; A. Nelson 9164; A; 9000–10500'; rsl
Carex nigricans C. A. Mey. (10) A, C; 9710–11020'; dmm, fen, pnd, sfs, wmm
Carex nova L. H. Bailey var. *nova* (5) A, C; 9510–10830'; mwa, pnd, wmm
Carex nova L. H. Bailey var. *pelocarpa* (F. J. Herm.) Dorn (1) C; 10730–11090'; dam
♦ *Carex occidentalis* L. H. Bailey (2) A, C; 8020–8750'; asf, rds
Carex pachystachya Cham. ex Steud. (14) A, C; 7640–10020'; ccb, dmm, fen, pnd, rcf, rsl, wmm
Carex parryana Dewey var. *unica* L. H. Bailley; A. Nelson 7682; A; 8000'; wmm
Carex paupercula Michx. (6) A, C; 8820–9780'; fen, pnd, rcf, wmm
Carex paysonis Clokey (1) A; 10620'; wmm
Carex petasata Dewey (4) A, C; 8020–11750'; dam, sbs, wmm
Carex phaeocephala Piper (2) C; 10970–11750'; dam, dmm
Carex praeceptorum Mack. (2) A; 9510–11270'; fen, wmm
Carex praegracilis W. Boott; A.J. Roderick 2057; C; 7800'; rsl
Carex praticola Rydb. (1) A; 8930–9030'; wmm
Carex pyrenaica Wahlenb. (4) A, C; 10970–11750'; dmm, fen, mwa
Carex raynoldsii Dewey (12) A, C; 8910–10970'; dmm, sfs, wmm
Carex rossii Boott (10) A, C; 8000–10600'; asf, dlw, lpf, ppw, sfs, wmm
Carex rupestris All. (2) A; 11010–11580'; dam, rsl
Carex saxatilis L. (2) A, C; 10240–10600'; wmm
Carex scopulorum T. Holm var. *scopulorum* (20) A, C; 9430–11750'; dam, fen, mwa, pnd, rcf, sfs, wmm
Carex simulata Mack. (1) A; 9270'; fen
Carex stenoptila F. J. Herm. (10) C; 8820–10970'; ccb, dmm, pnd, rcf, rsl
Carex stevenii (T. Holm) Kalela (21) A, C; 8220–11750'; dam, fen, lpf, pnd, rcf, rsl, wmm
Carex utriculata Boott (46) A, C; 7460–9930'; asf, ccb, dmm, fen, pnd, rsl, sfs, wmm
Carex vallicola Dewey (5) A, C; 7700–9330'; dlw, rds, sbs, sfs
Carex vernacula L. H. Bailey (1) C; 9150'; wmm
Carex vesicaria L. (2) C; 9650–9810'; fen
Eleocharis acicularis (L.) Roem. & Schult.; Nelson 18367; A; 8230'; stream channel
Eleocharis palustris (L.) Roem. & Schult. (7) A, C; 8270–9070'; rcf, pnd, wmm
Eleocharis quinqueflora (Hartm.) O. Schwarz (11) A, C; 8820–10540'; fen, pnd, rcf, rsl, wmm
Eriophorum angustifolium Honck. (1) A; 9270'; fen
♦ *Eriophorum gracile* Koch; B. Heidel 2693; A; 9180–9220'; fen
Scirpus microcarpus J. Presl & C. Presl (1) C; 8210'; rcf
♦ *Trichophorum pumilum* (Vahl) Schinz & Thell.; B. Heidel 2699; A; 9220–9240'; fen
- Elaeagnaceae**
Shepherdia canadensis (L.) Nutt. (28) A, C; 7640–9300'; asf, dlw, lpf, rcf, rds, rsl, sbs, sfs, wmm
- Ericaceae**
Arctostaphylos uva-ursi (L.) Spreng. (25) A, C; 7460–11180'; asf, dam, dlw, dmm, lpf, mwa, ppw, rds, rsl, sbs, sfs
Chimaphila umbellata (L.) W. P. C. Barton var. *occidentalis* (Rydb.) S. F. Blake (10) A, C; 7460–9210'; asf, lpf, pnd, rcf, sfs
Gaultheria humifusa (Graham) Rydb. (11) A, C; 9180–11270'; dam, fen, mwa, rcf, wmm
Kalmia microphylla (Hook.) A. Heller (11) A, C; 10250–11020'; fen, pnd, sfs, wmm
Moneses uniflora (L.) A. Gray (3) A, C; 8750–8970'; asf, rcf, sfs
Monotropa hypopithys L. (4) A, C; 7640–9480'; asf, lpf, rcf, sfs
Orthilia secunda (L.) House (31) A, C; 8030–9930'; asf, lpf, pnd, rcf, rsl, sfs, wmm
Pterospora andromedea Nutt. (11) A, C; 7640–9480'; asf, ccb, lpf, rcf, sfs
Pyrola asarifolia Michx. var. *asarifolia* (22) A, C; 8300–9580'; asf, fen, pnd, rcf, rsl, sfs, wmm
Pyrola chlorantha Sw. (16) A, C; 8300–9480'; lpf, rcf, rsl, sfs
Pyrola minor L. (11) A, C; 7460–11090'; lpf, mwa, rcf, sfs, wmm
Vaccinium cespitosum Michx. (26) A, C; 8630–11750'; dam, dmm, lpf, mwa, pnd, rcl, rsl, sfs, wmm
Vaccinium scoparium Leiberg ex Coville (50) A, C; 8630–11750'; dam, dmm, fen, lpf, mwa, rcf, rsl, sfs, wmm
- Euphorbiaceae**
Chamaesyce glyptosperma (Engelm.) Small (1) A; 7640–8220'; sbs
Euphorbia brachycera Engelm. (6) A, C; 7460–8480'; nmp, ppw, sbs
* • *Euphorbia esula* L. var. *uralensis* (Fisch. ex Link) Dorn; B. Hammel 586; C; 7600'; rds
- Fabaceae**
Astragalus adsurgens Pall. var. *robustior* Hook. (10) A, C; 7640–9400'; dmm, nmp, rds, sbs
Astragalus agrestis Douglas ex G. Don (8) A, C; 7700–9760'; asf, dmm, sbs, wmm
Astragalus alpinus L. var. *alpinus* (28) A, C; 7460–10280'; asf, dmm, fen, lpf, rcf, rsl, sfs, wmm
Astragalus australis (L.) Lam. var. *glabriusculus* (Hook.) Isely (1) A; 7860'; dmm
Astragalus bisulcatus (Hook.) A. Gray var. *bisulcatus*; R. Newton 1165; A; 7660'; wmm
Astragalus bisulcatus (Hook.) A. Gray var. *major* (M.E. Jones) S. L. Welsh (1) A; 8020'; rds
Astragalus bodinii E. Sheld.; A. Nelson 1529; A; 7700';
Astragalus convallarius Greene var. *convallarius* (1) C; 7620'; dlw
Astragalus crassicaarpus Nutt. var. *crassicaarpus* (1) C; 7700–8020'; sbs
Astragalus crassicaarpus Nutt. var. *paysonii* (E. H. Kelso) Barneby (2) A; 7740–8140'; ppw, sbs

- Astragalus drummondii* Douglas ex Hook. (2) A; 8120–9580'; lpf, sbs
Astragalus eucosmus B. L. Rob. (5) A, C; 7460–8760'; rcf, sfs, wmm
Astragalus flexuosus (Hook.) Douglas ex G. Don var. *flexuosus* (9) A, C; 7440–9450'; dmm, nmp, sbs
Astragalus gracilis Nutt. (1) C; 7700–8020'; sbs
Astragalus hyalinus M.E. Jones (1) A; 7380–7400'; nmp
 ♦*Astragalus leptaleus* A. Gray (1) A; 7630'; rsl
Astragalus miser Douglas var. *oblongifolius* (Rydb.) Cronquist (28) A, C; 7460–9180'; asf, dlw, dmm, lpf, rcf, sbs, sfs, wmm
Astragalus parryi A. Gray (7) A; 7860–9450'; asf, dmm, rcf, sbs
Astragalus pectinatus (Hook.) Douglas ex G. Don; G. B. Ownbey 501; A
Astragalus purshii Douglas ex Hook. var. *purshii* (1) A; 8200–8400'
Astragalus sericoleucus A. Gray (1) A; 7740–7880'; ppw
Astragalus shortianus Nutt. (3) A, C; 7880–9250'; dlw, ppw, sbs
Astragalus spatulatus E. Sheld. (4) A, C; 7700–8480'; dlw, sbs
Astragalus tenellus Pursh (1) A; 7740–7880'; ppw
Glycyrrhiza lepidota Pursh (1) C; 7510'; sbs
Lathyrus lanszwertii Kellogg var. *leucanthus* (Rydb.) Dorn (1) C; 7460'; sfs
Lupinus argenteus Pursh var. *argenteus* (36) A, C; 7700–10620'; asf, ccb, dmm, lpf, ppw, rcf, rds, rsl, sbs, sfs, wmm
Lupinus argenteus Pursh var. *argophyllus* (A. Gray) S. Watson (1) A; 9450'; rds
Lupinus argenteus Pursh var. *laxiflorus* (Douglas ex Lindl.) Dorn (10) A, C; 7640–9580'; asf, ccb, dmm, rds, sbs, wmm
Lupinus argenteus Pursh var. *rubricaulis* (Greene) S. L. Welsh (15) A, C; 7640–9370'; asf, ccb, lpf, rcf, rsl, sbs, sfs, wmm
Lupinus lepidus Douglas ex Lindl. var. *utahensis* (S. Watson) C. L. Hitchc. (13) A, C; 8020–9930'; dmm, lpf, rcf, rsl, sbs, wmm
Lupinus polyphyllus Lindl. var. *humicola* (A. Nelson) Barneby (4) C; 7880–8300'; dlw, sbs, sfs
Lupinus polyphyllus Lindl. var. *prunophilus* (M.E. Jones) L. L. Phillips (3) C; 8560–10590'; lpf, wmm
 **Medicago falcata* L.; Nelson 1482; C; 8200'; rds
 **Medicago lupulina* L. (3) A, C; 7890–9450'; rcf, sbs
 **Medicago sativa* L. (1) C; 8560'; wmm
 **Melilotus albus* Medik.; Nelson 1080; A; 8600'; rds
 **Melilotus officinalis* (L.) Pall. (4) A, C; 8020–9300'; ccb, rds
Oxytropis campestris (L.) DC. var. *spicata* Hook. (10) A, C; 8080–10280'; asf, dmm, lpf, rcf, sbs
Oxytropis deflexa (Pall.) DC. var. *sericea* Torr. & A. Gray (1) A; 7630'; rsl
Oxytropis lagopus Nutt. var. *atropurpurea* (Rydb.) Barneby (6) A, C; 7860–9330'; dlw, dmm, sbs
Oxytropis lambertii Pursh var. *bigelovii* A. Gray (17) A, C; 7640–9450'; dmm, lpf, nmp, rds, sbs
Oxytropis multiceps Nutt.; Hartman 24296; A; 7800–9500'; granitic rock slope
Oxytropis sericea Nutt. var. *sericea* (8) A, C; 7730–9330'; ccb, lpf, ppw, sbs
Thermopsis montana Nutt. var. *divaricarpa* (A. Nelson) Dorn (2) C; 7890'; sbs
Trifolium dasyphyllum Torr. & A. Gray (10) A, C; 8400–11750'; dam, dmm, mwa, ppw, sfs, wmm
Trifolium gymnocarpon Nutt. var. *gymnocarpon* (1) A; 8200–8400'
 **Trifolium hybridum* L. (29) A, C; 7460–9910'; asf, ccb, dmm, fen, lpf, pnd, rcf, rds, rsl, sbs, sfs, wmm
Trifolium longipes Nutt. var. *reflexum* A. Nelson (4) A, C; 7700–8700'; rcf, rsl, wmm
Trifolium parryi A. Gray var. *parryi* (13) A, C; 10020–11180'; dam, dmm, mwa, pnd, sfs, wmm
 **Trifolium pratense* L. (2) C; 8030–8920'; dmm, wmm
 **Trifolium repens* L. (46) A, C; 7460–9760'; asf, ccb, dmm, lpf, pnd, rcf, rds, rsl, sbs, sfs, wmm
Vicia americana Muhl. ex Willd. var. *americana* (21) A, C; 7460–8920'; asf, dmm, rcf, rsl, sbs, sfs, wmm
Vicia americana Muhl. ex Willd. var. *minor* Hook. (1) A; 7630'; rsl
- Gentianaceae**
Frasera speciosa Douglas ex Griseb. (12) A, C; 7510–10280'; dmm, ppw, rcf, rsl, sbs, sfs, wmm
Gentiana affinis Griseb. (2) A; 8070–9130'; dmm, rcf
Gentiana algida Pall. (3) A, C; 10240–11750'; dam, mwa
Gentiana aquatica L.; G. Osterhout 1026; A; 7700'
Gentiana parryi Engelm. (9) A; 8270–10540'; dmm, fen, mwa, sbs, wmm
Gentianella amarella (L.) Börner var. *acuta* (Michx.) Herder (24) A, C; 8070–11750'; asf, ccb, fen, lpf, mwa, pnd, rcf, rsl, sfs, wmm
Gentianella tenella (Rottb.) Börner; W.C. Leavenworth 220; A; 10200'; dam
Gentianopsis barbellata (Engelm.) H. H. Iltis; A. Nelson 1138; A; 9000–10000'; sfs
Gentianopsis detonsa (Rottb.) Ma var. *elegans* (A. Nelson) N.H. Holmgren (19) A, C; 8270–10600'; asf, fen, mwa, rcf, rsl, wmm
 ♦*Lomatogonium rotatum* (L.) Fr.; S. Markow s.n.; A; 9000'; pnd
Swertia perennis L. (16) A, C; 8710–10970'; fen, mwa, rcf, rsl, wmm
- Geraniaceae**
Geranium atropurpureum A. Heller var. *cowenii* (Rydb.) Dorn; W.G. Solheim 242; A; 8700'; ccb
Geranium caespitosum E. James (3) A; 7640–8520'; dlw, sbs
Geranium richardsonii Fisch. & Trautv. (43) A, C; 7460–9930'; asf, ccb, dmm, rcf, rsl, sfs, wmm
Geranium viscosissimum Fisch. & C. A. Mey. ex C. A. Mey. var. *incisum* (Torr. & A. Gray) N.H. Holmgren (11) A, C; 7440–8820'; asf, dmm, rds, sbs, sfs
- Grossulariaceae**
Ribes aureum Pursh var. *aureum*; W.B. Jones 161; A; 8500'; dlw
Ribes aureum Pursh var. *villosum* DC. (2) C; 7000–7320'; rsl
Ribes cereum Douglas (26) A, C; 7440–9450'; asf, dlw, dmm, lpf, rds, sbs, wmm
Ribes inerme Rydb. var. *inerme* (14) A, C; 7460–8760'; asf, ccb, rcf, rsl, sbs, wmm
Ribes lacustre (Pers.) Poir. (30) A, C; 8030–11750'; asf, dam, dmm, rcf, rsl, sfs, wmm
Ribes montigenum McClatchie (20) A, C; 9590–11180'; dam, dmm, mwa, pnd, rcf, sfs, wmm
Ribes oxycanthoides L. var. *setosum* (Lindl.) Dorn (2) A, C; 7510–10540'; mwa, sbs
- Haloragaceae**
Myriophyllum sibiricum Kom.; A. Nelson 971; A; 10100'; pnd
- Hydrocharitaceae**
Elodea canadensis Michx.; J. Haines 10167; A; 10700'; pnd
- Iridaceae**
Iris missouriensis Nutt. (11) A, C; 7630–9910'; asf, dmm, rcf, rsl, sbs, wmm
Sisyrinchium montanum Greene var. *montanum* (5) A, C; 7460–8760'; rsl, sfs, wmm
- Juncaceae**
Juncus alpinoarticulatus Chaix; B. Heidel 2672; A; 9780'; fen
Juncus arcticus Willd. var. *balticus* (Willd.) Trautv. (48) A, C; 7460–10540'; asf, ccb, fen, lpf, mwa, rcf, rsl, sbs, sfs, wmm
Juncus articulatus L. (1) A; 8270–8280'; rcf
Juncus bufonius L.; Nelson 13412; C; 8000'; wmm
Juncus castaneus Sm.; J. Haines 10492; A; 10780'; mwa
Juncus confusus Coville (20) A, C; 8230–9760'; asf, ccb, dmm, rcf, rds, rsl, wmm
Juncus drummondii E. Mey. (31) A, C; 8820–11750'; dam, dmm, fen, mwa, pnd, rcf, rsl, sfs, wmm

Juncus ensifolius Wikstr. var. *ensifolius* (11) A, C; 8370–9200'; rcf, rsl, wmm

Juncus ensifolius Wikstr. var. *montanus* (Engelm.) C. L. Hitchc. (7) C; 8070–9760'; asf, rcf, rsl, wmm

♦ *Juncus filiformis* L. (1) A; 8270–8280'; rcf

**Juncus gerardii* Loisel.; Hartman 92168; A; 8960'; wmm

Juncus hallii Engelm. (4) A, C; 8760–9480'; pnd, rcf, wmm

Juncus interior Wiegand; G.A. Goodwin s.n.; C; 8600'; ccb

Juncus longistylis Torr. (6) A, C; 7640–9130'; ccb, pnd, rcf, rsl, wmm

Juncus mertensianus Bong. (20) A, C; 8740–11270'; asf, fen, lpf, pnd, rcf, rsl, sfs, wmm

Juncus nevadensis S. Watson (13) A, C; 7460–9477'; dmm, fen, pnd, rcf, sfs, wmm

Juncus nodosus L. (1) C; 9580–9930'; rcf

Juncus parryi Engelm. (5) A, C; 9510–10710'; mwa, sfs, wmm

♦ *Juncus triglumis* L. var. *albescens* Lange; J. Haines 10493; A; 10770'; mwa

Luzula comosa E. Mey. (12) A, C; 8020–11090'; fen, lpf, mwa, rcf, rsl, wmm

Luzula parviflora (Ehrh.) Desv. (53) A, C; 8020–11090'; asf, fen, mwa, pnd, rcf, rsl, sfs, wmm

Luzula spicata (L.) DC. (20) A, C; 9890–11750'; dam, dmm, mwa, sfs, wmm

Juncaginaceae

Triglochin maritima L. (1) A; 7630'; rcf

Triglochin palustris L. (2) A; 9250–9580'; fen

Lamiaceae

Agastache urticifolia (Benth.) Kuntze var. *urticifolia* (1) A; 7440'; asf

Dracocephalum parviflorum Nutt. (2) A, C; 7640–8220'; ccb, lpf

Mentha arvensis L. (7) A, C; 8070–9030'; pnd, rcf, wmm

Prunella vulgaris L. var. *lanceolata* (W. P. C. Barton) Fernald (12) A, C; 8030–9930'; rcf, wmm

Scutellaria brittonii Porter; K.K. Hughes 387; A; 7560–7760'; near creek

Scutellaria galericulata L.; A. Nelson 1760; A; 8100'

Stachys palustris L. var. *pilosa* (Nutt.) Fernald (1) C; 8210'; rsl

Lentibulariaceae

♦ *Utricularia minor* L.; B. Heidel 2659; C; 9640'; fen

Utricularia vulgaris L. ssp. *macrorhiza* (Le Conte) R. T. Clausen (5) C; 8820–9070'; pnd

Liliaceae

Calochortus gunnisonii S. Watson var. *gunnisonii* (11) A, C; 7510–9180'; asf, ccb, dmm, lpf, rds, sbs

Calochortus nuttallii Torr. & A. Gray (4) A, C; 8070–8750'; dlw, sbs

Erythronium grandiflorum Pursh var. *grandiflorum* (20) A, C; 8160–11180'; dam, dmm, lpf, pnd, rcf, sbs, sfs, wmm

Fritillaria atropurpurea Nutt. (6) A, C; 7880–8680'; asf, sbs

Lilium philadelphicum L.; B. Hammel 509; A; 8870'; rsl

Prosartes trachycarpa S. Watson (2) C; 7890–8750'; asf

Limnanthaceae

Floerkea proserpinacoides Willd.; C.L. Porter 6682; C; 8500'; wmm

Linaceae

Linum kingii S. Watson; Nelson 1380; C; 8500'; dlw

Linum lewisii Pursh var. *lewisii* (19) A, C; 7380–9250'; dmm, nmp, rds, rsl, sbs, wmm

Loasaceae

Mentzelia decapetala (Pursh ex Sims) Urb. & Gilg ex Gilg; A. Nelson 8074; A; 7580'; rds

Mentzelia dispersa S. Watson; Nelson 2999; A; 8400'; sbs

Mentzelia montana (Davidson) Davidson (1) C; 7460'; sbs

♦ *Mentzelia rusbyi* Wooton; B. Hammel 88; A; 7500'; rds

Mentzelia sinuata (Rydb.) R.J. Hill; R.J. Hill 1578; A; 7580'; rds

Malvaceae

Iliamna rivularis (Douglas ex Hook.) Greene; Nelson 1483; C; 8200'; rds

Sidalcea candida A. Gray var. *candida* (5) A, C; 8030–9130'; asf, dmm, rcf, wmm

Sidalcea candida A. Gray var. *glabrata* C. L. Hitchc. (2) A, C; 8970–8980'; rcf

Sidalcea neomexicana A. Gray var. *neomexicana* (2) A, C; 7510–7630'; rsl, sbs

Sphaeralcea coccinea (Nutt.) Rydb. (4) A, C; 7510–8200'; nmp, sbs

Melanthiaceae

Zigadenus elegans Pursh (35) A, C; 8230–10830'; dmm, lpf, pnd, rcf, sfs, wmm

Zigadenus venenosus S. Watson var. *gramineus* (Rydb.) O. S. Walsh ex M. Peck (5) A, C; 7880–8530'; nmp, sbs

Menyanthaceae

Menyanthes trifoliata L. (2) C; 8820–9050'; pnd

Myrsinaceae

Glaux maritima L.; G. Ownbey 613; A; 8700'; along stream

Nymphaeaceae

Nuphar polysepala Engelm. (6) C; 8820–9650'; pnd

Onagraceae

Chamerion angustifolium (L.) Holub var. *angustifolium* (15) A, C; 8080–11580'; asf, ccb, dam, dmm, lpf, rcf, rds, sfs, wmm

Chamerion angustifolium (L.) Holub var. *canescens* (A.W. Wood) N.H. Holmgren & P.K. Holmgren (15) A, C; 7510–10540'; asf, ccb, dam, dmm, mwa, pnd, rcf, rds, sbs, sfs

Epilobium anagallidifolium Lam. (4) A, C; 9730–11580'; dam, fen, mwa

Epilobium brachycarpum C. Presl (8) A, C; 7460–9450'; ccb, dmm, sbs, wmm

Epilobium ciliatum Raf. var. *ciliatum* (13) A, C; 7640–9930'; ccb, fen, pnd, rcf, rds, rsl, wmm

Epilobium ciliatum Raf. var. *glandulosum* (Lehm.) Dorn (5) A, C; 8920–9480'; rcf, rsl, wmm

Epilobium clavatum Trel. (4) A, C; 8710–10710'; fen, wmm

Epilobium halleanum Hausskn. (13) A, C; 8230–10590'; asf, dmm, fen, lpf, rsl, wmm

Epilobium hornemannii Rchb. var. *hornemannii* (13) A, C; 8610–10500'; dmm, fen, rcf, rds, rsl, wmm

Epilobium lactiflorum Hausskn. (4) C; 8770–9220'; rcf, wmm

Epilobium oregonense Hausskn. (3) A; 9250–10540'; fen, pnd, rcf

Epilobium palustre L. var. *palustre* (1) C; 8820–8830'; pnd

Epilobium saximontanum Hausskn.; J. Haines 10155; A; 10940'; mwa

Gayophytum decipiens F. H. Lewis & Szweyk. (1) C; 7730'; sbs

Gayophytum diffusum Torr. & A. Gray var. *strictipes* (Hook.) Dorn (21) A, C; 8020–9480'; asf, ccb, dmm, lpf, rcf, rds, rsl, sbs, sfs, wmm

Gayophytum racemosum Torr. & A. Gray; J. Haines 9748; A; 10420'; dam, sfs

Gayophytum ramosissimum Torr. & A. Gray (8) A, C; 7460–9450'; dmm, ppw, sbs

Oenothera cespitosa Nutt. var. *cespitosa* (2) A, C; 7510–8140'; sbs

Oenothera cespitosa Nutt. var. *macroglottis* (Rydb.) Cronquist (8) A, C; 7460–9250'; dmm, nmp, ppw, sbs

Oenothera coronopifolia Torr. & A. Gray (3) A, C; 7460–8290'; sbs

Oenothera flava (A. Nelson) Garrett (1) C; 8140–8750'; dmm

Oenothera nuttallii Sweet (2) A, C; 7510–9130'; rds, sbs

Oenothera suffrutescens (Ser.) W. L. Wagner & Hoch (1) A; 7740–7880'; ppw

Oenothera villosa Thunb. var. *strigosa* (Rydb.) Dorn (1) A; 7630'; rsl

Orchidaceae

- Calypso bulbosa* (L.) Oakes var. *americana* (R. Br.) Luer (2) A, C; 8950–9140'; sfs
- Coeloglossum viride* (L.) Hartm (1) A; 8660–8760'; rcf
- Corallorhiza maculata* (Raf.) Raf. var. *maculata* (1) C; 9020'; sfs
- Corallorhiza maculata* (Raf.) Raf. var. *occidentalis* (Lindl.) Ames (17) A, C; 7460–9480'; asf, ccb, lpf, rcf, sfs, wmm
- Corallorhiza striata* Lindl. var. *vreelandii* (Rydb.) L. O. Williams; A. Nelson 10914; A; 8500–8700'; sfs
- Corallorhiza trifida* Châtel (2) A; 9140–9250'; wmm
- ◆ *Cypripedium fasciculatum* Kellogg ex S. Watson (2) C; 8610–8840'; lpf, sfs
- Goodyera oblongifolia* Raf.; H.D. Morris 174; C; 8800'; sfs
- Listera borealis* Morong (1) A; 9250–9580'; rcf
- ◆ *Listera convallarioides* (Sw.) Elliott; A. Nelson 1694; A; 8200'
- Listera cordata* (L.) R. Br. (4) A, C; 9140–9450'; rcf, wmm
- Piperia unalascensis* (Spreng.) Rydb. (3) C; 8030–8910'; asf, lpf
- Platanthera aquilonis* Sheviak (3) A, C; 8210–9140'; rcf, wmm
- Platanthera dilatata* (Pursh) Lindl. ex L. C. Beck var. *albiflora* (Cham.) Ledeb. (36) A, C; 8020–10970'; asf, fen, pnd, rcf, rsl, sfs, wmm
- Platanthera dilatata* (Pursh) Lindl. ex L. C. Beck var. *dilatata* (13) A, C; 8630–9890'; fen, rcf, rsl, wmm
- Platanthera huronensis* (Nutt.) Lindl. (16) A, C; 7460–9730'; asf, fen, lpf, rcf, rsl, sfs, wmm
- Platanthera obtusata* (Banks ex Pursh) Lindl.; Nelson 13232; A; 9300'; sfs
- Platanthera stricta* Lindl.; C.L. Porter 7933; C; 9000'; rsl
- Spiranthes romanzoffiana* Cham. (11) A, C; 8270–9930'; fen, pnd, rcf, rsl, wmm

Orobanchaceae

- Castilleja angustifolia* (Nutt.) G. Don var. *dubia* A. Nelson (12) A, C; 7700–9330'; dlw, dmm, nmp, sbs
- Castilleja flava* S. Watson var. *flava* (18) A, C; 7640–9180'; ccb, dlw, dmm, lpf, nmp, sbs, wmm
- Castilleja linariifolia* Benth. (16) A, C; 7890–9450'; asf, dmm, rds, rsl, sbs
- Castilleja miniata* Douglas ex Hook. var. *miniata* (14) A, C; 8030–9760'; dmm, rcf, rsl, sfs, wmm
- Castilleja rhexifolia* Rydb. (13) A, C; 8820–10970'; dmm, rcf, sfs, wmm
- Castilleja sulphurea* Rydb. (46) A, C; 7460–11090'; asf, fen, lpf, mwa, rcf, rsl, sbs, sfs, wmm
- Cordylanthus ramosus* Nutt. ex Benth.; Nelson 13479; C; 7870'; sbs
- Orobanche uniflora* L.; J. Haines 9950; A; 10500'; wmm
- Orthocarpus luteus* Nutt. (5) A, C; 8070–8820'; asf, dmm, sbs
- Pedicularis bracteosa* Benth. var. *paysoniana* (Pennell) Cronquist (22) A, C; 8230–11090'; dam, dmm, rcf, rsl, sfs, wmm
- Pedicularis crenulata* Benth.; A. Nelson 1528; A; 7580'
- Pedicularis groenlandica* Retz. (64) A, C; 8030–11750'; asf, fen, lpf, mwa, pnd, rcf, rsl, wmm
- Pedicularis parryi* A. Gray var. *parryi* (16) A, C; 8890–11750'; dam, dmm, lpf, mwa, pnd, sfs, wmm
- Pedicularis procera* A. Gray (1) A; 8120–8520'; asf
- Pedicularis racemosa* Douglas ex Benth. var. *alba* (Pennell) Cronquist (12) A, C; 9250–10970'; dmm, fen, lpf, rcf, sfs, wmm

Papaveraceae

- Corydalis aurea* Willd. var. *aurea* (7) A, C; 7640–8760'; ccb, dmm, lpf, rcf

Parnassiaceae

- Parnassia fimbriata* König var. *fimbriata* (2) C; 8710–10500'; rcf, wmm

Phrymaceae

- Mimulus breweri* (Greene) Coville (1) A; 8680'; sbs
- Mimulus floribundus* Lindl.; A. Nelson 8828; A; 8000–8100'; wet, stony draws

- Mimulus glabratus* Kunth var. *jamesii* (Torr. & A. Gray ex Benth.) A. Gray (1) A; 7640–8220'; sbs
- Mimulus guttatus* DC. (10) A, C; 8030–9580'; rcf, wmm
- Mimulus lewisii* Pursh (2) C; 9220–9710'; rcf, wmm
- Mimulus suksdorfii* A. Gray (1) A; 8400–9250'; ppw

Plantaginaceae

- ◆ *Besseyia alpina* (A. Gray) Rydb. (1) A; 11270–11580'; dam
- Besseyia wyomingensis* (A. Nelson) Rydb. (9) A, C; 7700–9330'; dlw, sbs
- Callitriche hermaphroditica* L. (1) C; 10710'; pnd
- Callitriche heterophylla* Pursh (1) A; 10250–10540'; pnd
- Callitriche palustris* L. (4) A, C; 9020–10240'; pnd
- ◆ *Chionophila jamesii* Benth. (6) A, C; 10620–11180'; dam, dmm, mwa, wmm
- Collinsia parviflora* Lindl. (19) A, C; 7460–9450'; asf, ccb, dlw, dmm, lpf, rcf, sbs, sfs, wmm
- Hippuris vulgaris* L. (1) C; 9700'; pnd
- Limosella aquatica* L.; M. Roberts 4757; A; 8090'; mud of creek bank
- * ● *Linaria dalmatica* (L.) Mill. var. *dalmatica*; L. Strack 130; A; 8200'; rds
- * ● *Linaria vulgaris* Mill. (8) A, C; 7460–9710'; ccb, dmm, rcf, rds, sbs, wmm
- Penstemon angustifolius* Nutt. ex Pursh var. *angustifolius* (1) C; 7880'; sbs
- ◆ *Penstemon cyathophorus* Rydb. (1) C; 7700–8020'; sbs
- Penstemon eriantherus* Pursh var. *eriantherus* (1) C; 7880'; sbs
- Penstemon glaber* Pursh var. *alpinus* (Torr.) A. Gray; B. Hammel 69; A; 9000'; rds
- Penstemon humilis* Nutt. ex A. Gray var. *humilis*; Hartman 24287; A; 9000–9500'; dlw/lpf
- Penstemon laricifolius* Hook. & Arn. var. *exilifolius* (A. Nelson) Payson (3) A, C; 7640–8750'; dmm, sbs
- Penstemon procerus* Douglas ex Graham var. *procerus* (19) A, C; 7630–10280'; asf, dmm, rsl, sbs, sfs, wmm
- Penstemon radicosus* A. Nelson (4) A, C; 7700–8990'; dmm, sbs
- Penstemon rydbergii* A. Nelson var. *aggregatus* (Pennell) N.H. Holmgren (2) A, C; 8760–9150'; lpf, wmm
- Penstemon rydbergii* A. Nelson var. *rydbergii* (2) A; 8270–9510'; sbs
- Penstemon saxosorum* Pennell (3) A; 8220–9400'; dmm, sbs
- Penstemon secundiflorus* Benth. (7) A, C; 7700–9330'; dmm, nmp, ppw, sbs
- Penstemon strictus* Benth. (17) A, C; 7460–9220'; dmm, ppw, rcf, rds, rsl, sbs
- Penstemon virens* Pennell ex Rydb. (19) A, C; 7460–9450'; dlw, dmm, lpf, nmp, ppw, sbs, sfs
- Penstemon virgatus* A. Gray var. *asa-grayi* (Crosswh.) Dorn (1) A; 9050'; dmm
- Penstemon whippleanus* A. Gray (33) A, C; 7890–11750'; asf, dam, dmm, mwa, pnd, rcf, rds, rsl, sfs, wmm
- Plantago eriopoda* Torr. (1) C; 9300'; ccb
- Plantago tweedyi* A. Gray (18) A, C; 7890–10710'; dmm, rcf, rsl, sfs, wmm
- Veronica americana* Schwein. ex Benth. (21) A, C; 7460–9930'; asf, ccb, fen, rcf, rsl, sfs, wmm
- Veronica peregrina* L. var. *xalapensis* (Kunth) H. St. John & F. W. Warren; Nelson 13242; A; 9300'; dried out puddles, disturbed area
- Veronica scutellata* L. (2) A; 8270–9030'; pnd, rcf
- Veronica serpyllifolia* L. var. *humifusa* (Dicks.) Vahl (32) A, C; 7730–10830'; asf, fen, mwa, pnd, rcf, rsl, wmm
- Veronica wormsjkoldii* Roem. & Schult. (46) A, C; 8230–11750'; fen, mwa, pnd, rcf, rsl, wmm

Poaceae

- Achnatherum contractum* (B. L. Johnson) Barkworth; Hartman 24303; A; 9000–9500'; ppw

- Achnatherum hymenoides* (Roem. & Schult.) Barkworth (5) A, C; 7460–8520'; dlw, sbs
- Achnatherum lettermanii* (Vasey) Barkworth (7) A, C; 8100–10590'; dmm, sbs, wmm
- Achnatherum nelsonii* (Scribn.) Barkworth ssp. *dorei* (Barkworth & J. Maze) Barkworth (3) C; 8290–8820'; asf, sbs
- Achnatherum nelsonii* (Scribn.) Barkworth ssp. *nelsonii* (23) A, C; 7640–9910'; asf, ccb, dlw, dmm, lpf, rcf, rsl, sbs, wmm
- Achnatherum occidentale* (Thurb.) Barkworth; *E. Nelson* 457; A; 9000'; dmm
- Achnatherum richardsonii* (Link) Barkworth (1) C; 8080–8200'; asf
- **Agropyron cristatum* (L.) Gaertn. var. *cristatum*; *Nelson* 698; A; 8400'; rds
- **Agropyron cristatum* (L.) Gaertn. var. *desertorum* (Fisch. ex Link) Dorn (3) A, C; 8020–8760'; ccb, rds
- **Agropyron cristatum* (L.) Gaertn. var. *fragile* (Roth) Dorn; *K.K. Hughes* 720; A; 7600–7800'; rds
- Agrostis exarata* Trin. (14) A, C; 8660–9930'; fen, pnd, rcf, rsl, wmm
- Agrostis idahoensis* Nash (6) A, C; 8610–11090'; mwa, rsl, sfs, wmm
- ♦ *Agrostis mertensii* Trin. (1) C; 11750'; dam
- Agrostis scabra* Willd. (26) A, C; 7460–9930'; ccb, dmm, fen, lpf, pnd, rcf, rds, rsl, sfs, wmm
- **Agrostis stolonifera* L. (8) A, C; 7640–9030'; ccb, rcf, rsl, sfs, wmm
- Agrostis variabilis* Rydb. (6) A, C; 9100–11580'; dam, fen, rsl, wmm
- Alopecurus aequalis* Sobol. var. *aequalis* (7) A, C; 7460–9400'; dmm, pnd, rcf, rsl, sfs, wmm
- **Alopecurus arundinaceus* Poir. (5) A, C; 7630–9430'; ccb, rcf, rds, wmm
- Alopecurus magellenicus* Lam. (2) A; 8970–9910'; wmm
- **Alopecurus pratensis* L. (4) A, C; 8560–9300'; ccb, wmm
- Anthoxanthum hirtum* (Schrank) Y. Schouten & Veldkamp (2) A, C; 9120–9730'; fen, rsl
- Aristida purpurea* Nutt. var. *fendleriana* (Steud.) Vasey; *W.B. Jones* 29; A; 7900'; gravelly soil
- Beckmannia syzigachne* (Steud.) Fernald (2) A, C; 8930–9660'; fen, wmm
- Bouteloua gracilis* (Kunth) Lag. ex Griffiths (1) A; 7380–7400'; nmp
- Bromus carinatus* Hook. & Arn. (13) A, C; 7890–9450'; asf, ccb, dmm, rds, rsl, sbs, wmm
- Bromus ciliatus* L. (28) A, C; 7620–9930'; asf, ccb, dlw, dmm, lpf, rcf, rsl, sbs, wmm
- **Bromus commutatus* Schrad. (2) C; 8710–8820'; dmm
- **Bromus inermis* Leyss. (25) A, C; 7460–9920'; ccb, dmm, lpf, pnd, rcf, rds, sbs, sfs, wmm
- Bromus porteri* (J.M. Coult.) Nash (12) A, C; 7640–9580'; asf, dmm, rsl, sbs, wmm
- **Bromus tectorum* L. (11) A, C; 7460–9330'; dlw, dmm, ppw, rds, sbs
- Calamagrostis canadensis* (Michx.) P. Beauv. var. *canadensis* (44) A, C; 7460–10540'; asf, fen, lpf, mwa, pnd, rcf, rsl, sfs, wmm
- Calamagrostis inexpansa* A. Gray (3) A, C; 8270–9210'; rsl, sfs, wmm
- Calamagrostis purpurascens* R. Br. (7) A, C; 8220–11750'; dam, dmm, lpf, wmm
- Calamagrostis rubescens* Buckley; *G. Hallsten* 480; C; 8100'; asf
- Calamagrostis stricta* (Timm) Koeler (1) A; 9130'; dmm
- Catabrosa aquatica* (L.) P. Beauv.; *Nelson* 785; A; 8900'; pnd
- Cinna latifolia* (Trevir. ex Göpp.) Griseb. (3) C; 8750–8920'; asf, rcf
- **Dactylis glomerata* L. (18) A, C; 7890–9430'; asf, ccb, dmm, rcf, rds, sfs, wmm
- Danthonia californica* Bol. (2) C; 8820–8910'; dmm
- Danthonia intermedia* Vasey (17) A, C; 8120–10500'; asf, dmm, fen, pnd, rcf, wmm
- Danthonia parryi* Scribn.; *Nelson* 13259; A; 9170'; dmm
- Danthonia unispicata* (Thurb.) Munro ex Macoun (1) A; 8120–8520'; sbs
- Deschampsia cespitosa* (L.) P. Beauv. var. *cespitosa* (69) A, C; 8220–11750'; fen, lpf, mwa, pnd, rcf, rsl, sfs, wmm
- Elymus albicans* (Scribn. & J. G. Sm.) Á. Löve (3) A, C; 7700–9220'; nmp, sbs
- Elymus canadensis* L. var. *canadensis* (3) C; 8710–9220'; wmm
- Elymus cinereus* Scribn. & Merr. (5) A, C; 7460–8210'; rcf, rds, sbs
- **Elymus elongatus* (Host) Runemark var. *ponticus* (Podp.) Dorn (2) A, C; 7640–9300'; ccb
- Elymus elymoides* (Raf.) Swezey var. *brevifolius* (J. G. Sm.) Dorn (23) A, C; 7460–9580'; asf, ccb, dlw, dmm, lpf, rcf, rds, sbs, wmm
- Elymus elymoides* (Raf.) Swezey var. *elymoides* (9) A, C; 7730–9930'; ccb, lpf, rcf, rsl, sbs
- Elymus glaucus* Buckley var. *glaucus* (22) A, C; 8030–9930'; asf, ccb, lpf, pnd, rcf, rds, rsl, sfs, wmm
- **Elymus hispidus* (Opiz) Melderis var. *hispidus* (4) A, C; 8560–9430'; dmm, rcf, sbs
- **Elymus junceus* Fisch.; *C.L. Porter* 9816; A; 8500'; rds
- Elymus lanceolatus* (Scribn. & J. G. Sm.) Gould var. *lanceolatus*; *K.K. Hughes* 437; A; 7440–7640'; asf
- Elymus lanceolatus* (Scribn. & J. G. Sm.) Gould var. *riparius* (Scribn. & J. G. Sm.) Dorn (3) A, C; 7620–8990'; dmm, rsl, sbs
- Elymus* × *macounii* Vasey; *A. Nelson* 8992; C; 8200–8500'; hillsides
- * ♦ *Elymus repens* (L.) Gould (4) A, C; 8290–10970'; dmm, sfs, wmm
- Elymus* × *saundersii* Vasey (1) C; 8820'; dmm
- Elymus scribneri* (Vasey) M.E. Jones (5) A, C; 9890–11750'; dam, dmm, mwa
- Elymus smithii* (Rydb.) Gould (3) A, C; 8020–8520'; dmm, rds, sbs
- Elymus spicatus* (Pursh) Gould (15) A, C; 7460–9180'; asf, ccb, dlw, dmm, lpf, sbs
- × *Elymus trachycaulus* (Link) Gould ex Shinners. × *Elymus scribneri* (Vasey) M.E. Jones (1) A; 9890–10280'; dmm
- Elymus trachycaulus* (Link) Gould ex Shinners ssp. *subsecundus* (Link) Á. Löve & D. Löve (7) A, C; 8120–9580'; asf, dmm, rcf, sbs, wmm
- Elymus trachycaulus* (Link) Gould ex Shinners var. *trachycaulus* (44) A, C; 7460–11090'; asf, ccb, dam, dmm, rcf, rds, rsl, sbs, sfs, wmm
- Festuca brachyphylla* Schult. ex Schult. & Schult. f. var. *coloradensis* (Fred.) Dorn (6) A, C; 10620–11090'; dam, dmm, wmm
- ♦ *Festuca hallii* (Vasey) Piper; *W. Fertig* 18618; A; 9600'; dmm
- Festuca idahoensis* Elmer (22) A, C; 7700–10589'; asf, dlw, dmm, lpf, nmp, rcf, rsl, sbs, wmm
- Festuca minutiflora* Rydb. (2) C; 10020–10500'; dmm, sfs
- Festuca rubra* L. ssp. *rubra* (1) C; 10730–11090'; mwa
- Festuca saximontana* Rydb. var. *saximontana* (32) A, C; 7620–11580'; ccb, dam, dlw, dmm, lpf, rcf, rds, sbs, wmm
- Festuca thurberi* Vasey (3) A, C; 8020–8280'; rcf, rsl, sbs
- Glyceria borealis* (Nash) Batch. (4) C; 8940–9120'; pnd, rcf
- Glyceria elata* (Nash ex Rydb.) M.E. Jones (7) A, C; 8070–9930'; fen, rcf, rsl
- Glyceria grandis* S. Watson (9) A, C; 7460–10240'; pnd, rcf, rsl, sfs
- Glyceria striata* (Lam.) Hitchc. (18) A, C; 7640–10540'; asf, ccb, pnd, rcf, rsl
- Hesperostipa comata* (Trin. & Rupr.) Barkworth var. *comata* (11) A, C; 7460–8700'; dmm, lpf, nmp, rsl, sbs
- Hesperostipa comata* (Trin. & Rupr.) Barkworth var. *intermedia* (Scribn. & Tweedy) Dorn (7) A, C; 7620–9450'; dmm, rsl, sbs
- Hordeum brachyantherum* Nevski (13) A, C; 8030–9760'; dmm, rsl, wmm
- Hordeum jubatum* L. ssp. *intermedium* Bowden (1) A; 9120–9370'; dmm
- Hordeum jubatum* L. ssp. *jubatum* (4) C; 8030–9300'; ccb, rds
- Koeleria macrantha* (Ledeb.) Schult. (39) A, C; 7460–9450'; asf, dlw, dmm, lpf, nmp, rcf, rsl, sbs, wmm
- Leucopoa kingii* (S. Watson) W. A. Weber (33) A, C; 7460–10280'; asf, dlw, dmm, lpf, nmp, rcf, rds, sbs, sfs

- Melica bulbosa* Geyer ex Porter & J.M. Coult. (6) A, C; 7880–10710'; asf, dmm, sbs, sfs
- Melica spectabilis* Scribn. (2) C; 8300–8910'; dmm, sbs
- Melica subulata* (Griseb.) Scribn. (3) C; 7890–8370'; asf, rcf
- Muhlenbergia andina* (Nutt.) Hitchc.; *B. Heidel* 2698; A; 9180'; fen
- Muhlenbergia filiculmis* Vasey (2) A, C; 8070–8570'; sbs
- Muhlenbergia filiformis* (Thurb. ex S. Watson) Rydb. (4) A, C; 8270–9030'; fen, rsl, wmm
- Muhlenbergia richardsonis* (Trin.) Rydb.; *C. Goodding* 205; A; 7600'; sbs
- Oryzopsis asperifolia* Michx. (7) A, C; 8230–8950'; dmm, lpf, rcf, wmm
- Phalaris arundinacea* L. (1) A; 7630'; rcf
- Phleum alpinum* L. var. *alpinum* (53) A, C; 7890–11750'; asf, ccb, dam, dmm, fen, lpf, mwa, pnd, rcf, rsl, sfs, wmm
- * *Phleum pratense* L. var. *pratense* (35) A, C; 7460–9990'; asf, ccb, dmm, lpf, rcf, rds, rsl, sbs, sfs, wmm
- Piptatherum exiguum* (Thurb.) Dorn (8) A, C; 8220–9920'; dmm, lpf, rcf, sbs
- Piptatherum micranthum* (Trin. & Rupr.) Barkworth (3) A, C; 7460–8100'; dlw, ppw, sbs
- Poa abbreviata* R. Br. ssp. *pattersonii* (Vasey) Á. Löve, D. Löve, & B. M. Kapoor (2) A, C; 10620–11750'; dam, wmm
- Poa alpina* L. var. *alpina* (19) A, C; 8750–11750'; asf, dam, dmm, mwa, pnd, rsl, sfs, wmm
- * *Poa annua* L. (3) A, C; 8820–9480'; rcf
- Poa arctica* R. Br. ssp. *arctica* (2) A, C; 9460–11750'; mwa, rcf
- Poa arctica* R. Br. ssp. *grayana* (Vasey) Á. Löve, D. Löve, & B. M. Kapoor (3) A; 9120–9910'; lpf, sfs, wmm
- Poa arida* Vasey (19) A, C; 7700–9760'; asf, ccb, dlw, dmm, sbs, wmm
- * *Poa compressa* L. (13) A, C; 8120–10590'; asf, dmm, lpf, rsl, wmm
- Poa cusickii* Vasey ssp. *epilis* (Scribn.) W. A. Weber (24); A, C; 9990–11580'; dam, dmm, mwa, pnd, sfs, wmm
- Poa cusickii* Vasey ssp. *pallida* Soreng (8) A, C; 7880–11580'; dam, dmm, mwa, pnd, ppw, sbs, sfs, wmm
- Poa fendleriana* (Steud.) Vasey ssp. *fendleriana* (4) A, C; 7890–8680'; dmm, nmp, sbs
- Poa fendleriana* (Steud.) Vasey ssp. *longiligula* (Scribn. & T.A. Williams) Soreng (25) A, C; 7700–10590'; dlw, dmm, nmp, ppw, sbs
- Poa glauca* Vahl. var. *rupicola* (Nash ex Rydb.) B. Boivin (9) A, C; 8000–11580'; dam, dlw, dmm, ppw, sfs, wmm
- Poa interior* Rydb. (23) A, C; 7460–11090'; asf, ccb, dam, dlw, dmm, lpf, rcf, rds, rsl, sbs, sfs
- Poa leptocoma* Trin. (17) A, C; 8230–11750'; fen, mwa, pnd, rcf, rsl, sbs, sfs, wmm
- Poa palustris* L. (30) A, C; 7460–10710'; asf, ccb, dlw, dmm, lpf, rcf, rsl, sfs, wmm
- Poa pratensis* L. (50) A, C; 7460–9930'; asf, ccb, dlw, dmm, lpf, ppw, rcf, rds, rsl, sbs, sfs, wmm
- Poa reflexa* Vasey & Scribn. (39) A, C; 8030–11750'; dam, dmm, fen, lpf, mwa, pnd, rcf, sfs, wmm
- Poa secunda* J. Presl ssp. *juncifolia* (Scribn.) Soreng (22) A, C; 7700–9370'; asf, ccb, dlw, dmm, ppw, rcf, rsl, sbs, sfs, wmm
- Poa secunda* J. Presl ssp. *secunda* (41) A, C; 7460–10830'; asf, dam, dlw, dmm, lpf, nmp, rcf, rsl, sbs, sfs, wmm
- * *Poa trivialis* L. (12) A, C; 7890–10970'; dlw, dmm, rcf, rds, rsl, sbs, wmm
- Poa wheeleri* Vasey (59) A, C; 7620–11090'; asf, ccb, dam, dlw, dmm, fen, lpf, mwa, pnd, rcf, rsl, sbs, sfs, wmm
- Podagrostis humilis* (Vasey) Björkman (22) A, C; 8790–11270'; dmm, fen, pnd, rcf, rsl, wmm
- * *Schedonorus arundinaceus* (Schreb.) Dumort. (2) C; 9300–9430'; ccb, rcf
- Sporobolus cryptandrus* (Torr.) A. Gray; *B. Hamel* 534; A; 8300'; among rocks above creek
- Torreyochloa pallida* (Torr.) G.L. Church var. *pauciflora* (J. Presl) J. I. Davis; *J. Haines* 10377; A; 10490'; wmm
- Trisetum spicatum* (L.) K. Richt. (66) A, C; 8030–11750'; asf, ccb, dam, dmm, fen, lpf, pnd, rcf, sfs, wmm
- Trisetum wolfii* Vasey (13) A, C; 8220–10500'; dmm, fen, pnd, rcf, rsl, sfs, wmm
- Vahlodea atropurpurea* (Wahlenb.) Fr. ex Hartm. (3) C; 9380–9730'; fen, wmm

Polemoniaceae

- Aliciella pinnatifida* (Nutt. ex A. Gray) J.M. Porter (2) A; 8270–8630'; dmm, rcf
- Collomia linearis* Nutt. (22) A, C; 7460–9910'; asf, ccb, dmm, rcf, rsl, sbs, sfs, wmm
- Gilia tweedyi* Rydb.; *Nelson* 13388; A; 7780'; rds
- Ipomopsis aggregata* (Pursh) V. E. Grant ssp. *aggregata* (11) A, C; 7460–8760'; dmm, lpf, sbs
- Ipomopsis aggregata* (Pursh) V. E. Grant ssp. *attenuata* (A. Gray) V. E. Grant & A. D. Grant (5) A, C; 7510–8750'; ppw, rds, rsl, sbs
- Ipomopsis spicata* (Nutt.) V. E. Grant var. *spicata* (4) A, C; 7880–9330'; dlw, sbs
- ◆ *Ipomopsis tenuituba* (Rydb.) V. E. Grant ssp. *tenuituba* (3) C; 8140–9220'; dmm, sbs
- Leptosiphon septentrionalis* (H. Mason) J.M. Porter & L. A. Johnson (4) A, C; 8300–9220'; lpf, rds, rsl, sbs
- Linanthus pungens* (Torr.) J.M. Porter & L. A. Johnson (3) A, C; 7700–8680'; sbs
- Microsteris gracilis* (Hook.) Greene var. *humilior* (Hook.) Cronquist (3) A, C; 8300–9450'; dlw, dmm, sbs
- Phlox hoodii* Richardson (4) A, C; 7880–8530'; dlw, nmp, sbs
- Phlox multiflora* A. Nelson ssp. *multiflora* (21) A, C; 7700–10590'; ccb, dlw, dmm, lpf, rsl, sbs, wmm
- Phlox pulvinata* (Wherry) Cronquist (7) A; 9890–11480'; dam, dmm, wmm
- Polemonium brandegeei* (A. Gray) Greene (1) A; 8000–8100'; dlw
- Polemonium occidentale* Greene var. *occidentale* (4) A, C; 8620–8970'; rsl, wmm
- Polemonium viscosum* Nutt. (9) A, C; 10620–11750'; dam, mwa, wmm

Polygonaceae

- Bistorta bistortoides* (Pursh) Small (40) A, C; 8220–11750'; dam, dmm, lpf, mwa, rsl, sbs, sfs, wmm
- Bistorta vivipara* (L.) Delarbre (12) A, C; 8220–11750'; dam, dmm, fen, mwa, rsl, wmm
- Eriogonum alatum* Torr. var. *alatum* (6) A, C; 7380–8750'; dmm, nmp, ppw, sbs
- Eriogonum arcuatum* Greene var. *arcuatum* (1) A; 8120–8520'; sbs
- Eriogonum brevicale* Nutt. var. *brevicale* (1) A; 7380–7400'; nmp
- Eriogonum cernuum* Nutt., (1) A; 7905'; sbs
- ◆ *Eriogonum exilifolium* Reveal; *B. Heidel* 245; A; 7800'; rds
- Eriogonum flavum* Nutt. var. *flavum* (8) A, C; 7380–9210'; dmm, nmp, sbs
- Eriogonum microthecum* Nutt. var. *effusum* (Nutt.) Torr. & A. Gray (1) A; 7380–7400'; nmp
- Eriogonum ovalifolium* Nutt. var. *purpureum* (Nutt.) T. Durand (2) C; 7880–10590'; dmm, sbs
- Eriogonum umbellatum* Torr. var. *aureum* (Gand.) Reveal (11) A, C; 7460–8760'; ccb, dlw, dmm, sbs
- Eriogonum umbellatum* Torr. var. *dichrocephalum* Gand. (1) C; 8930–9220'; sbs
- Eriogonum umbellatum* Torr. var. *majus* Hook. (36) A, C; 7460–9580'; asf, ccb, dlw, dmm, lpf, nmp, rsl, sbs, wmm
- Eriogonum umbellatum* Torr. var. *umbellatum* (15) A, C; 7640–9450'; dlw, dmm, lpf, nmp, sbs
- Oxyria digyna* (L.) Hill (6) A, C; 10550–11750'; dam, dmm

- Persicaria amphibia* (L.) Gray (2) C; 8940–9030'; pnd
Polygonum austiniiae Greene (1) C; 10400–10500'; sfs
 * *Polygonum aviculare* L. (7) A, C; 7640–9580'; ccb, dmm, lpf, sbs, wmm
Polygonum douglasii Greene (17) A, C; 7460–10500'; asf, ccb, dlw, dmm, rcf, sbs, wmm
Polygonum engelmannii Greene (1) C; 8030'; dmm
Polygonum polygaloides Meisn. ssp. *kelloggii* (Greene) J. C. Hickman (1) C; 8820–8830'; pnd
Polygonum polygaloides Meisn. var. *confertiflorum* (Nutt. ex Piper) J. C. Hickman (4) A, C; 8140–10710'; dmm, pnd, rds, wmm
Polygonum ramosissimum Michx.; A. Nelson 9044; A; 7580'; stream bank
Polygonum sawatchense Small ssp. *sawatchense*; Nelson 13441; C; 8000'; grassy sagebrush area
 * *Rumex acetosella* L. (11) A, C; 7730–8970'; asf, ccb, dmm, pnd, sbs, wmm
 * *Rumex crispus* L. (7) A, C; 8220–9580'; dmm, pnd, rsl, sbs
Rumex densiflorus Osterh. (11) A, C; 9250–10970'; dmm, mwa, rcf, rsl, wmm
Rumex fueginus Phil.; C.L. Porter 5938; C; 7800'; rsl
Rumex occidentalis S. Watson (5) A, C; 8740–9030'; dmm, pnd, rcf, wmm
Rumex paucifolius Nutt. (2) C; 8760–10020'; pnd, wmm
Rumex triangulivalvis (Danser) Rech. f. (11) A, C; 8370–10620'; dmm, lpf, rcf, rsl, wmm
Rumex utahensis Rech. f.; J. Haines 9842; A; 10590'; wmm

Portulacaceae

- Cistanthe rosea* (S. Watson) Hershkovitz (1) C; 7225–7320'; ppw
Claytonia lanceolata Pursh (10) A, C; 7880–10830'; dam, dmm, rcf, sbs, sfs, wmm
Claytonia megarhiza (A. Gray) Parry ex S. Watson; E. Nelson 5240; A
Lewisia pygmaea (A. Gray) B. L. Rob. (31) A, C; 7880–11580'; asf, dam, dmm, lpf, rcf, sbs, sfs, wmm
Lewisia rediviva Pursh var. *rediviva* (9) A, C; 7700–9220'; dmm, sbs
Lewisia triphylla (S. Watson) B. L. Rob.; J. Haines 7502; A; 10800'; sfs
Montia chamissoi (Ledeb. ex Spreng.) Greene (16) A, C; 7460–9930'; asf, dmm, rcf, rsl, sfs, wmm

Potamogetonaceae

- Potamogeton alpinus* Balb. (1) C; 9120'; wmm
Potamogeton epihydrus Raf. (2) C; 9020–9720'; pnd
 ♦ *Potamogeton friesii* Rupr.; C.L. Porter 6636; C; 8000'; pnd
Potamogeton gramineus L. (1) C; 9030'; pnd
Potamogeton natans L.; C.L. Porter 6517; C; 8000'; pnd
 ♦ *Potamogeton praelongus* Wulfen; W. Fertig 19856; A; 10700'; pnd
Potamogeton pusillus L. var. *pusillus*; B. Heide 2432; C; 9590'; pnd
Potamogeton pusillus L. var. *tenuissimus* Mert. & W. D.J. Koch (1) C; 9625'; pnd
Potamogeton richardsonii (A. Benn.) Rydb. (1) C; 9630'; pnd
 ♦ *Potamogeton robbinsii* Oakes; C.L. Porter 6812; C; 10000'; pnd
Stuckenia filiformis (Pers.) Börner ssp. *alpina* (Blytt) R. R. Hayes, Les, & M. Král; C.L. Porter 6189; A; 10000'; pnd

Primulaceae

- Androsace filiformis* Retz. (15) A, C; 7460–10710'; asf, rcf, rsl, sbs, sfs, wmm
Androsace septentrionalis L. (21) A, C; 7620–11620'; asf, ccb, dam, dlw, dmm, ppw, rcf, sbs, sfs, wmm
Primula conjugens (Greene) A. R. Mast & Reveal var. *conjugens* (7) A, C; 8020–10280'; rcf, wmm
Primula incana M.E. Jones (1) A; 9130–9150'; rsl
Primula parryi A. Gray (2) A; 10620–11020'; wmm
Primula pauciflora (Greene) A. R. Mast & Reveal var. *pauciflora* (15) A, C; 7460–9910'; asf, dmm, rcf, rsl, sfs, wmm

Ranunculaceae

- Aconitum columbianum* Nutt. ssp. *columbianum* (24) A, C; 8020–9910'; asf, lpf, rcf, rsl, sfs, wmm
Actaea rubra (Aiton) Willd. (10) A, C; 7440–9450'; asf, rcf, rsl, sfs
Anemone multifida Poir. var. *multifida* (14) A, C; 7630–10280'; asf, rcf, rsl, sbs, sfs, wmm
Anemone parviflora Michx.; M. Ownbey 867; A; 10500'; rsl
Anemone patens L. var. *multifida* Pritz. (17) A, C; 7620–11750'; dam, dlw, dmm, ppw, sbs, sfs, wmm
Aquilegia coerulea E. James var. *coerulea* (18) A, C; 7460–11750'; asf, dam, dlw, dmm, lpf, rcf, sbs, sfs, wmm
Aquilegia coerulea E. James var. *ochroleuca* Hook. (3) A; 10620–11270'; dam, wmm
Caltha leptosepala DC. (42) A, C; 8220–11750'; fen, mwa, pnd, rcf, rsl, sfs, wmm
Clematis hirsutissima Pursh var. *hirsutissima* (2) A, C; 8020–8140'; sbs
Clematis ligusticifolia Nutt.; Nelson 1916; A; 7600'; rsl
Clematis occidentalis (Hornem.) DC. var. *grosseserrata* (Rydb.) J. S. Pringle (12) A, C; 7460–9450'; asf, dlw, ppw, rcf, sbs, sfs
Delphinium barbeyi (Huth) Huth (6) A, C; 8630–10590'; dmm, rcf, rsl, wmm
Delphinium geyeri Greene (1) A; 7740–7880'; ppw
Delphinium glaucum S. Watson (7) A, C; 7890–8970'; asf, dmm, rcf, sbs
Delphinium nuttallianum Pritz. (22) A, C; 7700–10710'; dmm, lpf, nmp, rsl, sbs, sfs, wmm
Ranunculus abortivus L. (1) C; 8630–11750'; mwa, rsl
Ranunculus acriformis A. Gray var. *acriformis* (1) A; 7630'; rsl
Ranunculus adoneus A. Gray (1) C; 10590'; wmm
Ranunculus alismifolius Geyer ex Benth. var. *montanus* S. Watson (26) A, C; 8030–11270'; dam, dmm, fen, lpf, mwa, rcf, rsl, sfs, wmm
Ranunculus aquatilis L. var. *diffusus* With. (4) A, C; 8210–8630'; pnd
Ranunculus cardiophyllus Hook. (7) A, C; 7860–9580'; rsl, wmm
Ranunculus cymbalaria Pursh; R. Newton 951; A; 7690'; rsl
Ranunculus eschscholtzii Schltldl. var. *eschscholtzii* (13) A, C; 9120–10710'; dmm, lpf, mwa, rcf, rds, rsl, sfs, wmm
Ranunculus flammula L. var. *ovalis* (J.M. Bigelow) L. D. Benson; (8) A, C; 8210–10240'; pnd, rcf
Ranunculus glaberrimus Hook. var. *ellipticus* (Greene) Greene (5) A, C; 8160–9810'; asf, ccb, fen, sbs, wmm
Ranunculus gmelinii DC.; A. Nelson 8003; A; 7900–8200'; pnd
Ranunculus inamoenus Greene var. *inamoenus* (13) A, C; 7860–10970'; dmm, lpf, rds, rsl, sbs, sfs, wmm
Ranunculus macounii Britton (11) A, C; 7460–8980'; asf, ccb, rcf, sfs, wmm
Ranunculus pedatifidus Sm. var. *affinis* (R. Br.) L. D. Benson (1) A; 9590–9910'; dmm
Ranunculus pygmaeus Wahlenb.; W.C. Leavenworth 265; A; 12000'
Ranunculus ranunculinus (Nutt.) Rydb. (1) A; 9330'; ppw
Ranunculus sceleratus L. var. *multifidus* Nutt. (1) A; 7905'; in a draw
Ranunculus uncinatus D. Don (33) A, C; 7460–9930'; asf, dmm, rcf, sfs, wmm
Thalictrum alpinum L. (4) A; 8930–9370'; fen, rsl
Thalictrum fendleri Engelm. ex A. Gray (5) A, C; 7860–9450'; rcf, sbs, wmm
Thalictrum occidentale A. Gray (2) C; 8610–8750'; sfs
Thalictrum sparsiflorum Turcz. ex Fisch. & C.A. Mey. (8) A, C; 8070–9210'; asf, rcf, wmm
Thalictrum venulosum Trel. (4) A, C; 8220–8760'; rcf, rsl, wmm
Trollius albiflorus (A. Gray) Rydb. (40) A, C; 8630–11750'; fen, lpf, mwa, pnd, rcf, rsl, sfs, wmm

Rhamnaceae

Ceanothus velutinus Douglas ex Hook. var. *velutinus* (14) A, C; 7880–8970'; asf, ccb, dlw, dmm, lpf, sbs, sfs

Rosaceae

- *! *Alchemilla filicaulis* Buser ssp. *filicaulis* (1) A; 8860–8890'; rcf
Amelanchier alnifolia (Nutt.) Nutt. ex M. Roem. var. *alnifolia* (5) A, C; 7460–8570'; asf, dmm, rcf, sbs
Amelanchier alnifolia (Nutt.) Nutt. ex M. Roem. var. *pumila* (Torr. & A. Gray) A. Nelson (4) A, C; 7700–9450'; dmm, rds, rsl, sbs
Amelanchier utahensis Koehne var. *utahensis* (14) A, C; 7730–8680'; asf, dlw, dmm, lpf, ppw, rds, sbs
Cercocarpus montanus Raf. var. *montanus* (10) A, C; 7440–9330'; dlw, ppw, sbs
Chamaerhodos erecta (L.) Bunge; *Hartman* 24348; A; 7800–7900'; rocky plains
Comarum palustre L. (3) C; 8820–9630'; pnd, wmm
Dasiphora fruticosa (L.) Rydb. (29) A, C; 7510–9580'; asf, dmm, fen, lpf, rcf, rsl, sbs, wmm
Drymocallis arguta (Pursh) Rydb. (2) A, C; 8020–8280'; rsl, sbs
Drymocallis convallaria (Rydb.) Rydb. (1) C; 8290'; sbs
Drymocallis fissa (Nutt.) Rydb. (24) A, C; 7700–9580'; ccb, dlw, dmm, lpf, nmp, ppw, rcf, rsl, sbs
Drymocallis glabrata Rydb. (1) C; 7460'; sbs
Drymocallis glandulosa (Lindl.) Rydb. var. *glandulosa* (1) C; 8950'
Drymocallis pseudorupestris (Rydb.) Rydb. var. *pseudorupestris* (1) C; 7620'; dlw
Fragaria vesca L. (7) A, C; 7620–9810'; dlw, fen, rcf
Fragaria virginiana Mill. (55) A, C; 7730–10280'; asf, ccb, dmm, fen, lpf, pnd, rcf, rsl, sbs, sfs, wmm
Geum aleppicum Jacq. (3) C; 7510–8950'; rcf, rsl, sbs
Geum macrophyllum Willd. var. *perincisum* (Rydb.) Raup (43) A, C; 7460–9910'; asf, fen, lpf, rcf, rsl, sfs, wmm
Geum rivale L. (10) A, C; 8030–9450'; fen, rcf, rsl, wmm
Geum rossii (R. Br.) Ser. var. *turbinatum* (Rydb.) C. L. Hitchc. (13) A, C; 10620–11750'; dam, dmm, rsl, wmm
Geum triflorum Pursh var. *ciliatum* (Pursh) Fassett (19) A, C; 7620–9910'; asf, dlw, dmm, rsl, sbs, wmm
Geum triflorum Pursh var. *triflorum* (7) A, C; 7460–9150'; dmm, lpf, rcf, rsl, sbs, sfs
Potentilla anserina L. (1) C; 8210'; rcf
Potentilla biennis Greene; *B. Hammel* 733; A; 7500'; rsl
Potentilla bipinnatifida Douglas ex Hook. var. *bipinnatifida*; *Nelson* 13404; A; 8160'; rds
Potentilla concinna Richardson var. *bicrenata* (Rydb.) S. L. Welsh & B. C. Johnst. (1) A; 8680'; sbs
Potentilla concinna Richardson var. *concinna* (4) A; 8080–9250'; ppw, sbs, wmm
Potentilla diversifolia Lehm. var. *diversifolia* (41) A, C; 8220–11750'; dam, dmm, fen, lpf, mwa, pnd, rcf, rsl, sfs, wmm
Potentilla gracilis Douglas ex Hook. var. *brunnescens* (Rydb.) C. L. Hitchc.; *H. Hughes* H-33; C; 9000'; dmm
Potentilla gracilis Douglas ex Hook. var. *elmeri* (Rydb.) Jeps. (2) A, C; 7510–7630'; rsl
Potentilla gracilis Douglas ex Hook. var. *fastigiata* (Nutt.) S. Watson (18) A, C; 7890–11180'; asf, dam, dmm, mwa, rcf, rds, rsl, sbs, wmm
Potentilla gracilis Douglas ex Hook. var. *pulcherrima* (Lehm.) Fernald (32) A, C; 7460–9580'; asf, ccb, dmm, lpf, rcf, rsl, sbs, sfs, wmm
Potentilla hippiana Lehm. var. *effusa* (Douglas ex Lehm.) Dorn (17) A, C; 7440–9580'; dmm, lpf, rsl, sbs
Potentilla hippiana Lehm. var. *hippiana* (7) A, C; 7460–9580'; dmm, lpf, nmp, sbs, sfs, wmm
Potentilla hookeriana Lehm.; *J. Haines* 9325; A; 10900'; dmm
Potentilla nivea L. var. *pentaphylla* Lehm. (1) A; 11270–11580'; dam

- Potentilla norvegica* L. ssp. *monspeliensis* (L.) Asch. & Graebn. (3) A, C; 8070–9400'; rcf, rsl
Potentilla ovina Macoun var. *decurrens* (S. Watson) S. L. Welsh & B. C. Johnst. (2) A, C; 9890–10590'; dmm
Potentilla ovina Macoun var. *ovina* (2) C; 7880–8480'; dlw, sbs
Potentilla rubricaulis Lehm. (7) A, C; 8220–11040'; dam, dmm, lpf, rcf, wmm
Prunus virginiana L. var. *melanocarpa* (A. Nelson) Sarg. (22) A, C; 7460–9450'; asf, dlw, dmm, lpf, rcf, rds, sbs, sfs, wmm
Purshia tridentata (Pursh) DC. (27) A, C; 7440–9450'; asf, dlw, dmm, nmp, ppw, rds, rsl, sbs
Rosa arkansana Porter var. *arkansana* (3) C; 7510–8750'; dlw, rsl
Rosa nutkana C. Presl var. *hispida* Fernald (14) A, C; 7890–9210'; asf, ccb, dmm, rcf, rds, rsl, sbs, sfs, wmm
Rosa sayi Schwein. (36) A, C; 7460–9760'; asf, ccb, dlw, dmm, lpf, ppw, rcf, rsl, sbs, sfs
Rosa woodsii Lindl. var. *ultramontana* (S. Watson) Jeps. (3) C; 8930–9220'; sbs
♦ *Rubus acaulis* Michx.; *K. Roche* s.n.; A; 9130'; lpf
Rubus idaeus L. var. *aculeatissimus* Regel & Tiling (17) A, C; 7460–10970'; asf, dmm, lpf, rcf, rds, rsl, sbs, sfs, wmm
Rubus idaeus L. var. *peramoenus* (Greene) Fernald (5) A, C; 7890–11090'; dam, rcf, rsl
Rubus parviflorus Nutt. var. *parviflorus* (5) C; 8020–8970'; lpf, rcf, sfs
Sibbaldia procumbens L. (33) A, C; 8580–11750'; dam, dmm, fen, lpf, mwa, pnd, sfs, wmm
Sorbus scopulina Greene (1) C; 8630'; rcf
Spiraea betulifolia Pall. var. *lucida* (Douglas ex Hook.) C. L. Hitchc. (1) C; 8940'; sfs

Rubiaceae

- Galium bifolium* S. Watson (4) C; 7730–10590'; asf, sbs, wmm
Galium boreale L. (60) A, C; 7460–9760'; asf, ccb, dlw, dmm, fen, pnd, ppw, rcf, rsl, sbs, sfs, wmm
Galium trifidum L. var. *subbiflorum* Wiegand (19) A, C; 8020–10710'; fen, pnd, rcf, rsl, sbs, wmm
Galium trifidum L. var. *trifidum*; *J. Haines* 9780; A; 10485'; wmm
Galium triflorum Michx. (13) A, C; 7460–9070'; asf, rcf, rsl, sfs, wmm

Salicaceae

- Populus angustifolia* E. James (6) A, C; 7440–8400'; asf, rsl, sbs
Populus balsamifera L. var. *balsamifera* (1) C; 8560'; sbs
Populus tremuloides Michx. (54) A, C; 7460–9580'; asf, ccb, dlw, lpf, ppw, rcf, rsl, sbs, sfs, wmm
Salix arctica Pall. var. *petraea* (Andersson) Bebb (1) A; 10250–10540'; mwa
Salix bebbiana Sarg. (4) C; 7460–8570'; asf, rsl, sfs
Salix boothii Dorn (11) A, C; 7730–9630'; asf, fen, pnd, rcf, rsl, sbs, wmm
Salix brachycarpa Nutt. var. *brachycarpa* (9) A, C; 9140–11750'; mwa, rsl, wmm
♦ *Salix candida* Flüeggé ex Willd. (1) A; 9270'; fen
Salix cascadiensis Cockerell (1) A; 11000–11270'; mwa
Salix discolor Muhl.; *R.D. Dorn* 7109; C; 8000'; rsl
Salix drummondiana Barratt ex Hook. (11) A, C; 7890–9710'; asf, rcf, wmm
Salix eriocephala Michx. var. *ligulifolia* (C. R. Ball) Dorn (6) A, C; 8710–9580'; asf, rcf, rsl, wmm
Salix eriocephala Michx. var. *watsonii* (Bebb) Dorn; *B. Heidel* 2592; A; 8950'; fen
Salix exigua Nutt. ssp. *exigua* (10) A, C; 7460–9130'; rcf, rsl, sfs, wmm
Salix geyeriana Andersson var. *geyeriana* (16) A, C; 7630–9300'; ccb, pnd, rsl, sbs, sfs, wmm
Salix glauca L. var. *villosa* Andersson (12) A, C; 9180–11750'; mwa, rsl, wmm

Salix lasiandra Benth. var. *caudata* (Nutt.) Sudw. (11) A, C; 7460–9450'; asf, rcf, rsl, sfs
Salix monticola Bebb (2) C; 9760'; wmm
Salix planifolia Pursh (28) A, C; 8820–11180'; fen, mwa, pnd, rcf, rsl, wmm
Salix reticulata L. var. *nana* Andersson; A. Nelson 11599; A; 10500'
Salix scouleriana Barratt ex Hook. (7) A, C; 8300–10240'; rcf, rsl, wmm
Salix wolfii Bebb var. *wolfii* (14) A, C; 8220–11040'; rcf, rsl, wmm

Santalaceae

Arceuthobium americanum Nutt. ex Engelm. (9) A, C; 8260–9300'; lpf, rcf,
Arceuthobium cyanocarpum (A. Nelson ex Rydb.) A. Nelson (4) A, C; 8000–8520'; dlw, sfs
Comandra umbellata (L.) Nutt. var. *pallida* (A. DC.) M.E. Jones (10) A, C; 7640–8750'; dmm, ppw, sbs

Sapindaceae

Acer glabrum Torr. var. *glabrum* (17) A, C; 7460–9330'; asf, dlw, ppw, rcf, sbs, sfs

Sarcobataceae

Sarcobatus vermiculatus (Hook.) Torr. (1) A; 8020'; rds

Saxifragaceae

Heuchera parvifolia Nutt. ex Torr. & A. Gray (16) A, C; 7460–10280'; dlw, dmm, lpf, nmp, ppw, sbs, sfs
Lithophragma glabrum Nutt. var. *ramulosum* (Suksd.) B. Boivin (6) A, C; 7880–10590'; lpf, sbs, wmm
Lithophragma parviflorum (Hook.) Nutt. ex Torr. & A. Gray (3) C; 7880–8030'; rsl, sbs
Mitella pentandra Hook. (31) A, C; 8030–10500'; asf, fen, pnd, rcf, rsl, sfs, wmm
Saxifraga cernua L.; E. Nelson 5238; A; 10500–11000'
Saxifraga flagellaris Willd. ex Sternb. var. *crandallii* (Gand.) Dorn; R. D. Dorn 1474; A; 11000'; rock ledge
Saxifraga occidentalis S. Watson; B. Pieper 34; A; 10870'; mwa
Saxifraga odontoloma Piper (33) A, C; 8030–11270'; fen, mwa, rcf, rsl, sfs, wmm

Saxifraga rhomboidea Greene (19) A, C; 7700–11180'; dam, dmm, lpf, mwa, rcf, sbs, sfs, wmm
Saxifraga rivularis L. var. *debilis* (Engelm. ex A. Gray) Dorn; J. Haines 7717; A; 10700'; mwa
 ♦ *Saxifraga serpyllifolia* Pursh var. *chrysantha* (A. Gray) W. A. Weber; W. Fertig 14260; C; 11640'; dam

Scrophulariaceae

Scrophularia lanceolata Pursh; Nelson 765; C; 7800'; rds
 * *Verbascum thapsus* L. (1) A; 7905'; sbs

Solanaceae

Solanum triflorum Nutt.; (1) A; 7905'; sbs

Typhaceae

Sparganium angustifolium Michx. (3) A, C; 9630–10240'; pnd
Sparganium emersum Rehmman; K. Costello s.n.; A; 9000'; pnd
 ♦ *Sparganium natans* L. (2) C; 9020–9120'; pnd, wmm

Urticaceae

Parietaria pennsylvanica Muhl. ex Willd.; Nelson 13443; C; 8100'; base of cliff
Urtica dioica L. var. *procera* (Muhl. ex Willd.) Wedd. (6) A, C; 7460–9450'; asf, ccb, rcf, sbs

Verbenaceae

Verbena bracteata Lag. & Rodr. (1) A; 7905'; sbs
Verbena stricta Vent.; Nelson 1913; A; 8000'; rds

Violaceae

Viola adunca Sm. var. *adunca* (36) A, C; 7460–10970'; asf, dam, dmm, fen, lpf, rcf, rsl, sbs, sfs, wmm
Viola canadensis L. (2) C; 7460–7730'; asf, sfs
Viola macloskeyi Lloyd var. *pallens* (Banks ex DC.) C. L. Hitchc. (12) A, C; 8070–10710'; dmm, fen, rcf, rsl, sfs, wmm
Viola nephrophylla Greene; (1) A; 7860'; wmm
Viola nuttallii Pursh (4) A; 8070–10620'; dlw, sbs, wmm
Viola palustris L. (2) C; 8950–9300'; rcf
Viola praemorsa Douglas ex Lindl. (2) C; 8160–8300'; rcf, sbs
Viola vallicola A. Nelson (7) A, C; 7640–10710'; ccb, sbs, sfs, wmm

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